

PHOTOFACt® Folder

with CIRCUITRACE™

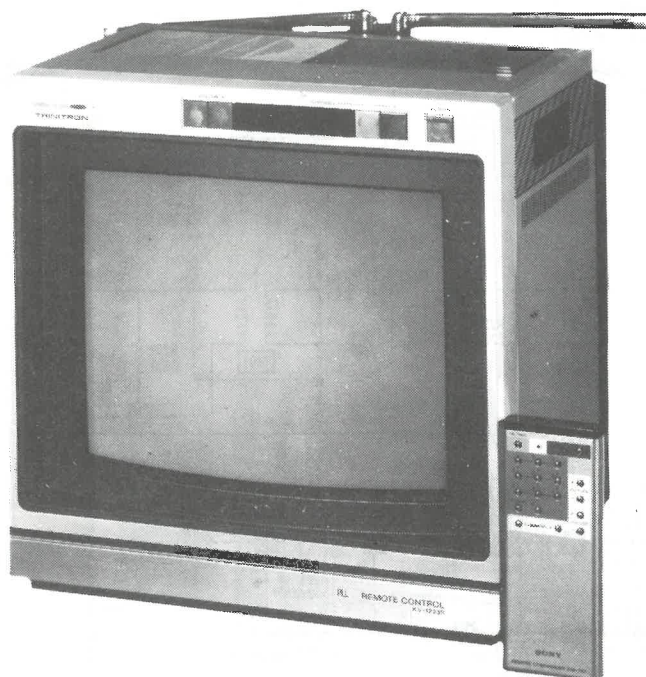
For Supplier Address See PHOTOFACt® Index

SONY CHASSIS
SCC-406E-A/F-A

COLOR TV



MODEL	CHASSIS
KV-1222R	SCC-406E-A
KV-1223R	SCC-406F-A



Model KV-1223R

SONY CHASSIS
SCC-406E-A/F-A

SONY CHASSIS
SCC-406E-A/F-A

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HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

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TROUBLESHOOTING (Continued)

waveform at pin 34 of IC301 and associated circuitry. If no green (magenta raster) check the Green Output Transistor (Q702) and check voltage and waveform of the CRT. Check voltage and waveform at pin 33 of IC301 and associated circuitry.

SYNC

Check for a video waveform at pin 15 of the Horizontal, Vertical Oscillator/Drive IC (IC501) and the voltage and waveform at pin 16. Check for the proper vertical waveform at pin 12 of IC501. If the waveform is absent or wrong check voltages at pins 11, 12, 15, 16 of IC501. Check voltages and waveforms at the base and collector of the Vertical Sync Sep Transistor (Q503). Check Diode D516 and Electrolytics C508, C509, C551, C552, C511 and associated components. Check for the proper horizontal waveform at pins 1, 2 and 18 of IC501 and voltages on pins 1, 2, 17 and 18. Check Electrolytics C525, C501 and associated components. In case no vertical and horizontal sync on the picture, check IC501 and associated components.

CHROMA

Inject a color video signal at TP12 and check for a chroma waveform at pin 6 of the Y Chroma IC (IC301). Check for an oscillation waveform at pins 11 and 13 of IC301 (14.3MHz oscillation, 4 times 3.58MHz). If waveform is absent check the 14.3MHz Oscillator Crystal (X301). Check the adjustment on Color Sync Control Capacitor (CV301). For weak color, check waveforms at pins 2, 3, 5, 6, 8 of IC301. Check alignment of Capacitor CV301, Transformer T302 and check Electrolytics C306, C316 and associated circuitry. For no color sync, check the

waveform at pin 36 of IC301. If the waveform is absent check Burst Gate Pulse Transistor (Q301), check voltage and waveform at pin 15 of Horizontal, Vertical Oscillator/Drive IC (IC501), check pins 36, 35 and 34 of IC301 and associated components. For no green, check waveform at pin 33 of IC301. Check waveform at the collector of the Green Output Transistor (Q702), check voltages and waveforms on the CRT and associated components. For no blue, check waveform at pin 32 of IC301. Check waveform at the collector of the Blue Output Transistor (Q703), check voltage and waveform on the CRT and associated components. For no red, check waveform at pin 34 of IC301. Check waveform at the collector of the Red Output Transistor (Q701), check voltages and waveforms on the CRT and associated components. For incorrect hue (tint), check pins 6, 11, 13, 15, 16, 32 thru 36 of IC301 and check voltages on the Dynamic Color Transistor (Q704) and associated circuitry.

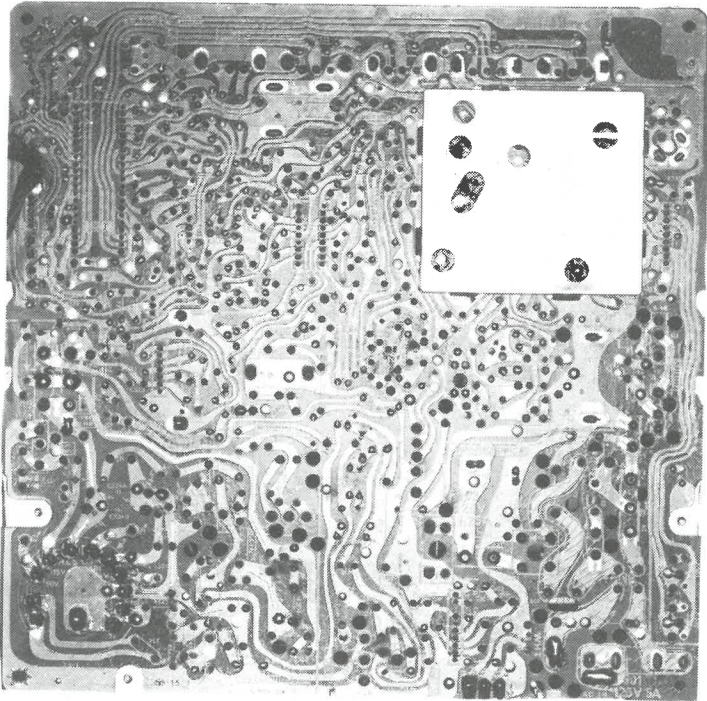
CIRCUIT DESCRIPTION

HIGH VOLTAGE HOLD DOWN CIRCUIT

If the high voltage exceeds 23KV the HV hold down circuit will be activated to shut down the set. The rectified voltage at TP85 will rise to 17.0V which will cause the voltage at pin 5 to rise to 7.0V activating the X-Ray protector to shutdown the horizontal oscillator. See Voltage Chart with the X-Ray protector activated.

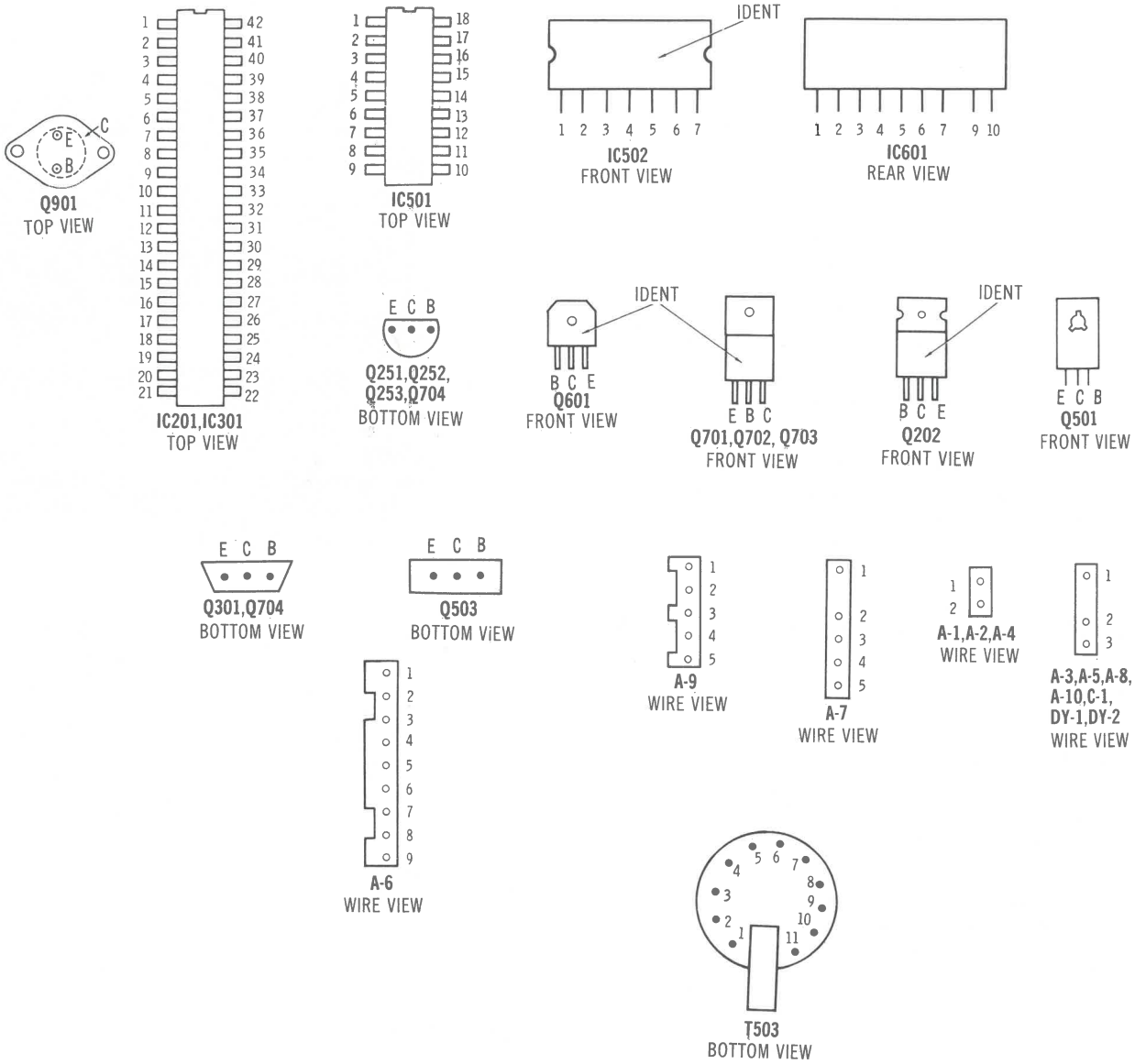
VOLTAGE CHART

Cathode of D503	138.6V
Pin 6 of IC501	3.58V
Pin 5 of IC501	5.64V
TP85	17.00V



MAIN BOARD-SHIELD LOCATION

TERMINAL GUIDES



For SAFETY use only equivalent replacement part.

- X Circuitry not used in some versions

- - - Circuitry used in some versions

⊖ See parts list

※ Nominal value

≡ Ground

Waveforms: triggered scope, keyed rainbow generator

Item numbers in rectangles appear in the alignment/adjustment instructions.

Supply voltage maintained as shown at input.

Voltages measured with digital meter, no signal.

Controls adjusted for normal operation.

Terminal identification may not be found on unit.

Resistors are 1/2W or less, 5% unless noted.

Value in () used in some versions.

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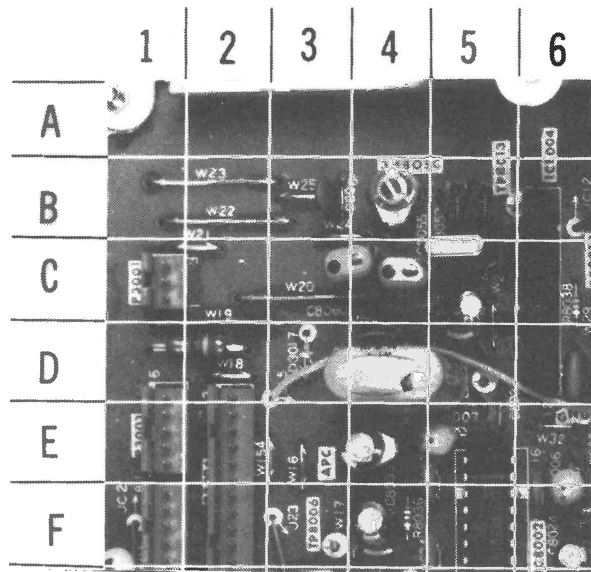
FOLDER 2

GRIDTRACE INSTRUCTIONS

1. Locate item numbers and grid coordinates on GridTrace location guide.
2. Locate component on GridTrace photo using grid coordinates.
3. Item numbers on PC Board are used for positive identification of components.

GRIDTRACE LOCATION GUIDE

C8022	F-6	D3017	D-3
C8024	F-6	IC8002	F-5
C8025	F-6	IC8004	B-6
C8028	D-6	L8006	E-6
C8030	E-4	L8007	E-5
C8031	D-4	L8011	C-3
C8032	E-5	L8012	C-4
C8033	F-4	P3001	C-1
C8034	F-4	P3003	E-1
C8035	E-4	P3006	E-2
C8050	C-4	R3212	D-2
C8051	C-5	R8032	F-6
C8053	B-5	R8036	F-4
C8054	B-5	TP8006	F-3
C8055	B-4	TP8013	B-5
C8056	B-4	X8001	D-4
C8061	B-3	X8002	C-5



A Howard W. Sams GRIDTRACE™ Photo

SERVICE INFORMATION

R559 ADJUSTMENT

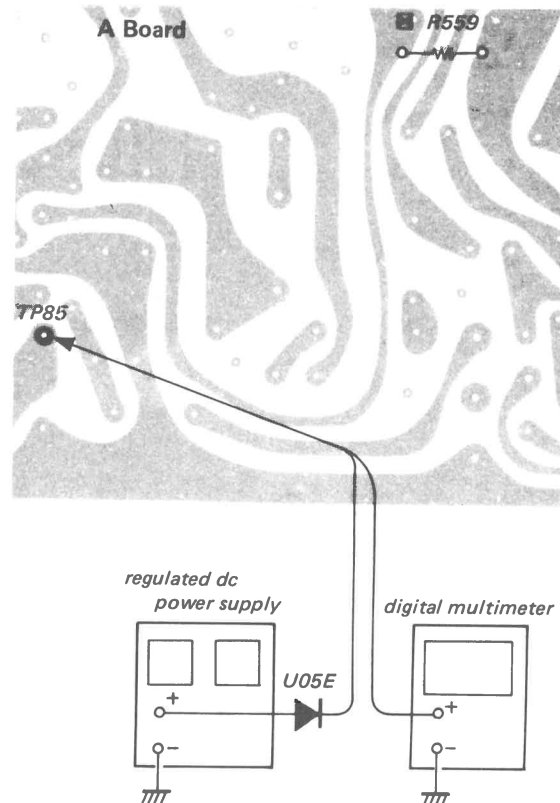
When replacing the following components, make this adjustment.

C505, C539, C548, D502, IC501, R541, R542, R546, R559

1. Supply the 17.30 to 17.40 dc to TP85 with the regulated-dc power supply and confirm that the HV hold down circuit operates. (When the HV hold down circuit operates, raster disappears.)

Note: As soon as the HV hold down circuit operates, turn the POWER switch to OFF.

2. Supply to 119 to 121V dc to TP91 with the regulated-dc power supply and confirm that the set is normally operated on any of all channels. (The HV hold down circuit does not operated.) When the set is normally operated with 120V ac, confirm that the voltage on TP85 is 14 to 15.8V dc. If steps 1 to 3 are not satisfied, select the resistance value of R559 and repeat above steps.



Courtesy of the Manufacturer

TROUBLESHOOTING

POWER SUPPLY

Check AC Fuse (F601), if bad check Diode Bridge (D601), B+ Regulator Transistor (Q601), Horizontal Output Transistor (Q901), Power Module IC (IC601) and replace any bad parts. Check DC Fuse (F602) and check for a short to ground at the 115V source TP91. Apply 120V AC power and check for 115V at both sides of Fuse F602. If B+ is absent or not correct check for possible short to ground at the sources and for regulation problems that can be caused by IC601 and Transistor Q601 and associated components. Check sources from Horizontal Output Transformer (T503) and check for 201V at pin 1 of Plug A-8. Check for 15.65V at TP85. Check for 23.7V at TP96 and check for 15.32V at TP92. Check for 12.64V at TP93 and -30.2V at TP94. If any of these sources are absent troubleshoot the horizontal circuit, refer to the Horizontal Section of this troubleshooting guide.

HORIZONTAL

Check for 115V at the collector of the Horizontal Output Transistor (Q901). Check for 105V at the collector of the Horizontal Drive Transistor (Q501). Check for 12.76V at pin 17 and 12.24V at pin 14 of Horizontal Vertical Osc/Drive IC (IC501). Inject a horizontal signal at the base of Transistor Q901. If the high voltage returns check the voltage and waveforms on pins 1, 2, 3, 5, 6, and 18 of IC501 and check Transistor Q501 and associated circuitry. If the high voltage is not present, check Transistor Q901 and associated components. If these check out as normal, check the Horizontal Output Transformer (T503). The high voltage rectifier is part of the horizontal output transformer assembly, it may be defective. B+ sources developed from the horizontal output transformer can cause loading of the horizontal circuit. Check B+ sources rectified by Diodes D508, D509, D510, D511 and D514. Check the 12V Regulator Transistor (Q202) and associated circuitry. Poor horizontal linearity can be caused by the condition of Capacitors C901, C524A, C524B and Diodes D504, D505 and associated components.

VERTICAL

Check for 12.24V at pin 14 and check voltages and waveforms on pins 8 thru 13 of Horizontal, Vertical Oscillator/Drive IC (IC501). Check voltages and waveforms on the Vertical Output IC (IC502). Inject a vertical signal at TP81 and check for a vertical deflection on the CRT. If no vertical deflection, check voltages and waveforms on pins 2 thru 6 of IC502, Diode D501 and Electrolytics C515, C550 and check vertical winding on the yoke and associated components. If vertical deflection returns with the vertical drive signal at TP81, check voltages and waveforms at pins 8 and 10 of IC501 and check Diode D516 and Electrolytics C536 and C544. Poor vertical linearity or foldover can be caused by vertical feedback and bias circuit. Check voltage and waveform at pins 9 and 10 of IC501 and check Diode D500, Electrolytics C532, C534, C533, C531, C536, C544, C515, C550 and associated components. Check Resistance Measurements Chart for possible changes in feedback bias circuitry.

IF-AGC

Inject an IF signal at the IF Input (J201) and check for picture information on the CRT. If picture is present, check tuner and tuner AGC circuit. If picture is not present check for 12.61V at pin 13 of VIF, SIF, AFT IC (IC201). Check for a video waveform at TP12. If video waveform is not present apply AGC bias at pin 38 of IC201. If video waveform returns check pins 4, 5, 38, 39 of IC201. If video waveform is still absent at TP12, check voltages and associated components of pins 2, 3, 8, 9, 10, 11, 32, 33, 36 and 40 of IC201. A defective AGC circuit can cause an overloaded picture, excessive snow or loss of picture and sound. See voltage chart for AGC voltages with signal.

AGC VOLTAGE CHART

NOTE: Voltages taken with Keyed-Rainbow generator unless otherwise noted.

IC201

Pin 4	6.24V
Pin 5	3.79V
Pin 38	5.40V
Pin 39	5.40V

AUDIO

Check for 11.42V on pin 31 and 11.36V on pin 21 of VIF, SIF, AFT IC (IC201) with volume control at MINIMUM. The voltage at pin 16 of IC201 should be 0V and 11.0V with volume control at Maximum. If the voltage does not change, check voltage and waveform at pin 10 of Key Display Interface IC (IC2001) and check associated components. Inject an audio signal at pin 14 of IC201. If audio is present check voltages on pins 14 thru 29 of IC201, remote circuit board and associated circuitry. If audio is absent, check AF Drive Transistor (Q251), AF Output Transistor (Q252), AF Output Transistor (Q253), Audio Transformer (T251), Speaker S901, Audio Jack (J901) and associated circuitry.

VIDEO

Inject a video signal at TP12 and check for a picture on the CRT. Check for 12.64V at pins 7 and 10 of the Chroma IC (IC301). Check voltages and waveforms at pins 1, 2, 3, 32, 33, 34 and 42 of IC301. If waveforms are absent check IC301 and associated components. Check the waveforms at the base of Red Output Transistor (Q701), Green Output Transistor (Q702) and Blue Output Transistor (Q703). Check waveforms and voltages on the CRT, check CRT and associated circuitry.

RASTER

Check CRT and check CRT voltages and waveforms. If there is a missing color or can not set up B&W, check the voltages and waveforms on the Dynamic Color Transistor (Q704). If no blue (yellow raster) check the Blue Output Transistor (Q703) and the voltage and waveform on pin 10 of the CRT. Check voltage and waveform at pin 32 of Chroma IC (IC301) and associated circuitry. If no red (cyan raster) check the Red Output Transistor (Q701) and voltage and waveform on pin 5 of the CRT. Check voltage and

TROUBLESHOOTING AID

Note: Waveforms taken with triggered scope, Keyed-Rainbow generator. Schematic voltages measured with digital meter, no signal. Controls adjusted for normal operation.

PICTURE or SOUND

NO PIC, NO SOUND, NO RASTER: Check AC power supply and sources generated from Horizontal Output Transformer (T503). Refer to "Troubleshooting" Power Supply and Horizontal circuits.

NO PIC, NO SOUND, HAS RASTER: Check IF-AGC and source voltages from Horizontal Output Transformer (T503). Refer to "Troubleshooting" IF-AGC and Horizontal circuits.

NO PIC, HAS SOUND, NO RASTER: Check Horizontal Output Transformer (T503) sources and Video circuit. Refer to "Troubleshooting" Horizontal and Video circuits.

NO PIC, HAS SOUND, HAS RASTER: Refer to "Troubleshooting" Video circuit.

HAS PIC, NO SOUND: Refer to "Troubleshooting" Audio circuit.

OVERLOADED PICTURE: Refer to "Troubleshooting" IF-AGC circuit.

LOW OR EXCESSIVE BRIGHTNESS: Check Video and Luminance circuits. Refer to "Troubleshooting" Video circuit.

SWEEP

NO RASTER, HAS SOUND: Check HV rectifier Part of Horizontal Output Transformer (T503). Refer to "Troubleshooting" Horizontal circuit.

NO RASTER, NO SOUND: Refer to "Troubleshooting" Horizontal circuit.

NO VERT DEFLECTION: Refer to "Troubleshooting" Vertical circuit.

POOR VERT LIN OR FOLDOVER: Refer to "Troubleshooting" Vertical circuit.

POOR HORIZ LIN OR FOLDOVER: Refer to "Troubleshooting" Horizontal circuit.

NARROW PICTURE: Refer to "Troubleshooting" Horizontal circuit.

VERT OFF FREQUENCY: Refer to "Troubleshooting" Vertical circuit.

HORIZ OFF FREQUENCY: Refer to "Troubleshooting" Horizontal circuit.

SYNC

NO VERT/HORIZ SYNC: Refer to "Troubleshooting" Sync circuit.

RASTER

YELLOW (NO BLUE): Check Chroma and Blue Output circuits. Refer to "Troubleshooting" Raster circuit.

CYAN (NO RED): Check Chroma and Red Output circuits. Refer to "Troubleshooting" Raster circuit.

MAGENTA (NO GREEN): Check Chroma and Green Output circuits. Refer to "Troubleshooting" Raster circuit.

COLOR (B/W operating normally)

NO COLOR: Refer to "Troubleshooting" Chroma circuit.

WEAK COLOR: Refer to "Troubleshooting" Chroma circuit.

NO COLOR SYNC: Refer to "Troubleshooting" Chroma circuit.

NO GREEN: Check Chroma and Green Output circuits. Refer to "Troubleshooting" Raster circuit.

NO BLUE: Check Chroma and Blue Output circuits. Refer to "Troubleshooting" Raster circuit.

NO RED: Check Chroma and Red Output circuits. Refer to "Troubleshooting" Raster circuit.

INCORRECT HUE (TINT): Refer to "Troubleshooting" Chroma circuit.

SAFETY PRECAUTIONS

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

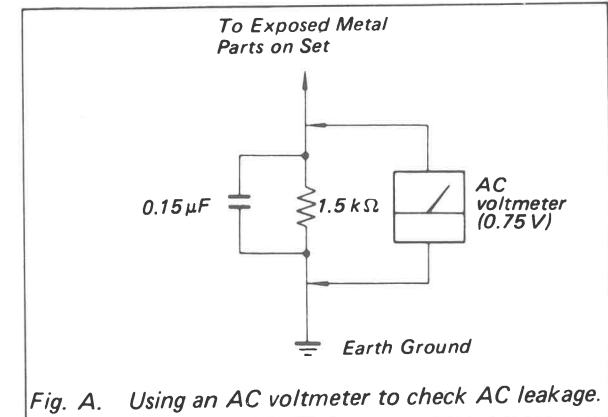


Fig. A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

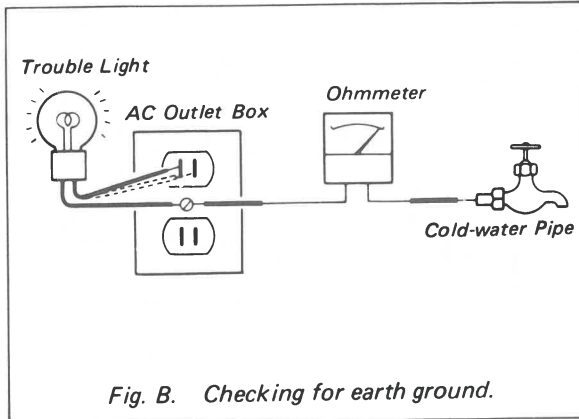
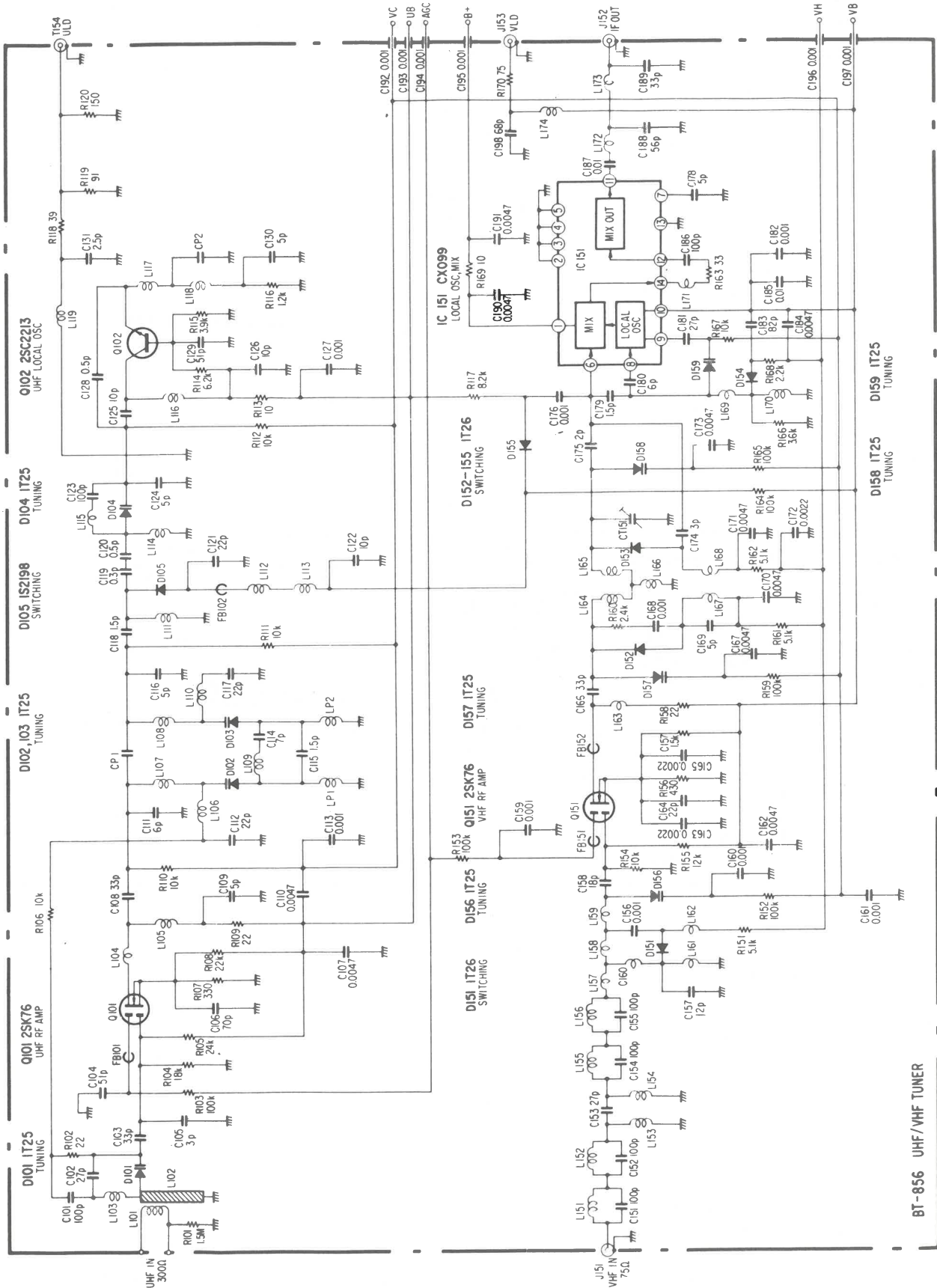


Fig. B. Checking for earth ground.

Courtesy of the Manufacturer



Courtesy of the Manufacturer

UHF/VHF TUNER

TV ALIGNMENT INSTRUCTIONS

Use an isolation transformer, or observe polarity, and maintain line voltage at 120VAC. Allow a 20-minute warm-up period for receiver and test equipment.
Suggested Alignment Tools:
T201, T204, T205, T206, T301.....9440
T202, T203.....9296, 9297, 9300

PRELIMINARY INSTRUCTIONS

Set the channel selector to the highest unused channel. Set scope sweep to external. Connect scope vertical input to scope vertical input on sweep/marker generator. Connect scope external horizontal input to scope horizontal input on sweep/marker generator. Ground test equipment to TV chassis unless specified otherwise. Use only enough generator output to provide a usable indication.
Note: Response may vary slightly from that shown.
Connect a +5.5V Bias to TP2.
Disconnect IF cable at J201 (IF Input)

VIDEO IF ALIGNMENT (MODULATED MARKER GENERATOR)

SCOPE (DIRECT PROBE)	MARKER GENERATOR OUTPUT	MARKER GENERATOR FREQUENCY	REMARKS
To TP12	To J201 (IF Input)	45.75MHz (Modulated)	Adjust T202 for Maximum. See Figure 1.
"	"	44.00MHz (Modulated)	Adjust T201 for Maximum. Adjust T206 for Maximum. See Figure 1.

VIDEO IF ALIGNMENT (BAR SWEEP GENERATOR)

BAR SWEEP GENERATOR	SCOPE INPUT	REMARKS
To J201 (IF Input)	To TP12	Perform Video IF Adjustments per SWEEP/MARKER GENERATOR instructions above. See Figure 2.

SOUND IF ALIGNMENT

Tune in a station and adjust T204 and T205 for Maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continued to reduce the signal while aligning for undistorted output by adjusting T204.

CHROMA BANDPASS ALIGNMENT (SWEEP MARKER GENERATOR)

Connect as explained in preliminary instructions. Set color control to Maximum, tint control to midrange.				
DETECTOR PROBE FROM SWEEP/MARKER GENERATOR	SWEEP GENERATOR OUTPUT	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
To TP3	To J201 (IF Input)	44MHz (10MHz Sweep)	3.08MHz 3.58MHz 4.08MHz	Adjust T301 for Maximum gain and symmetry of response. See Figure 3.

CHROMA BANDPASS ALIGNMENT (BAR SWEEP GENERATOR)

BAR SWEEP GENERATOR	SCOPE INPUT	REMARKS
To J201 (IF Input)	To TP3	Perform CHROMA BANDPASS Adjustments per SWEEP/MARKER GENERATOR instructions above. See Figure 4.

SONY CHASSIS
SCC-406E-A/F-A

FOLDER 2

TV ALIGNMENT INSTRUCTIONS (Continued)

AUTOMATIC FINE TUNING ALIGNMENT

Connect as explained in preliminary instructions unless specified otherwise. Connect a +6V Bias to TP2.				
DIRECT PROBE FROM SWEEP/MARKER GENERATOR	SWEEP GENERATOR OUTPUT	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
To TP4	To J201 (IF Input)	44.00MHz (10MHz Sweep)	45.75MHz	Adjust T203 to place 45.75MHz marker as shown. See Figure 5.

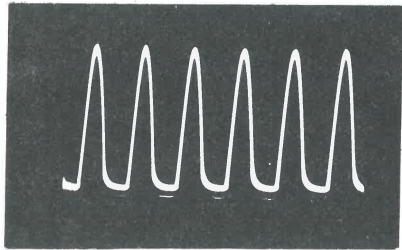


Figure 1

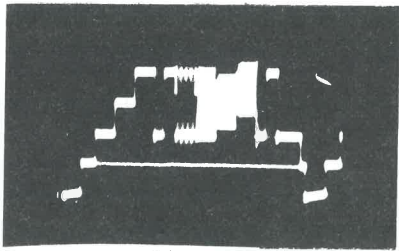


Figure 2

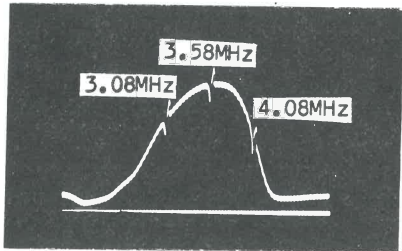


Figure 3

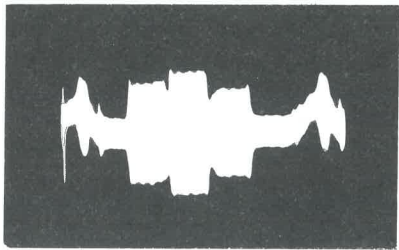


Figure 4

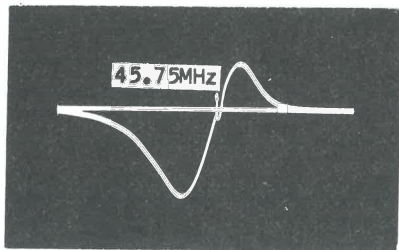
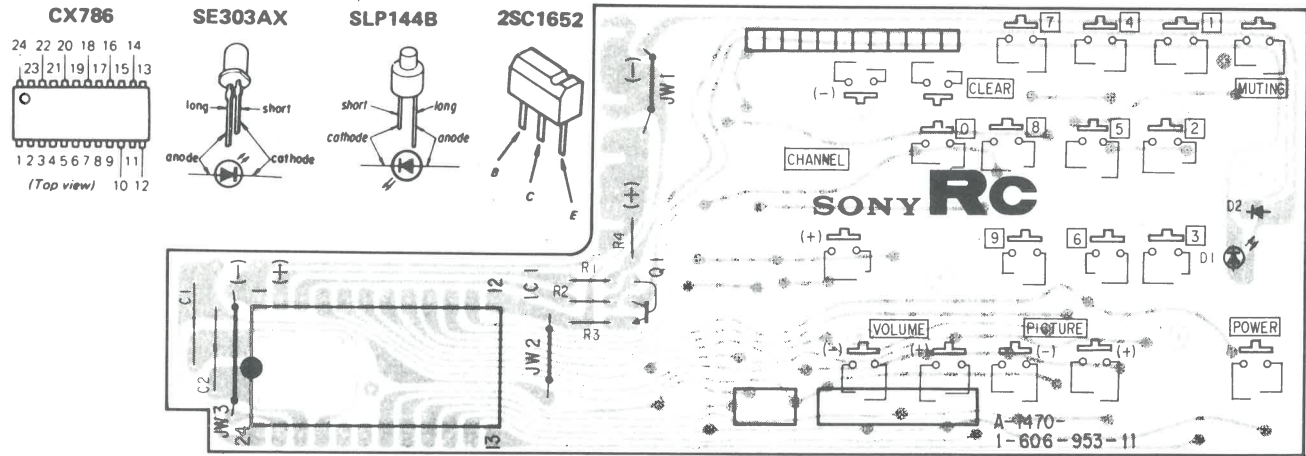
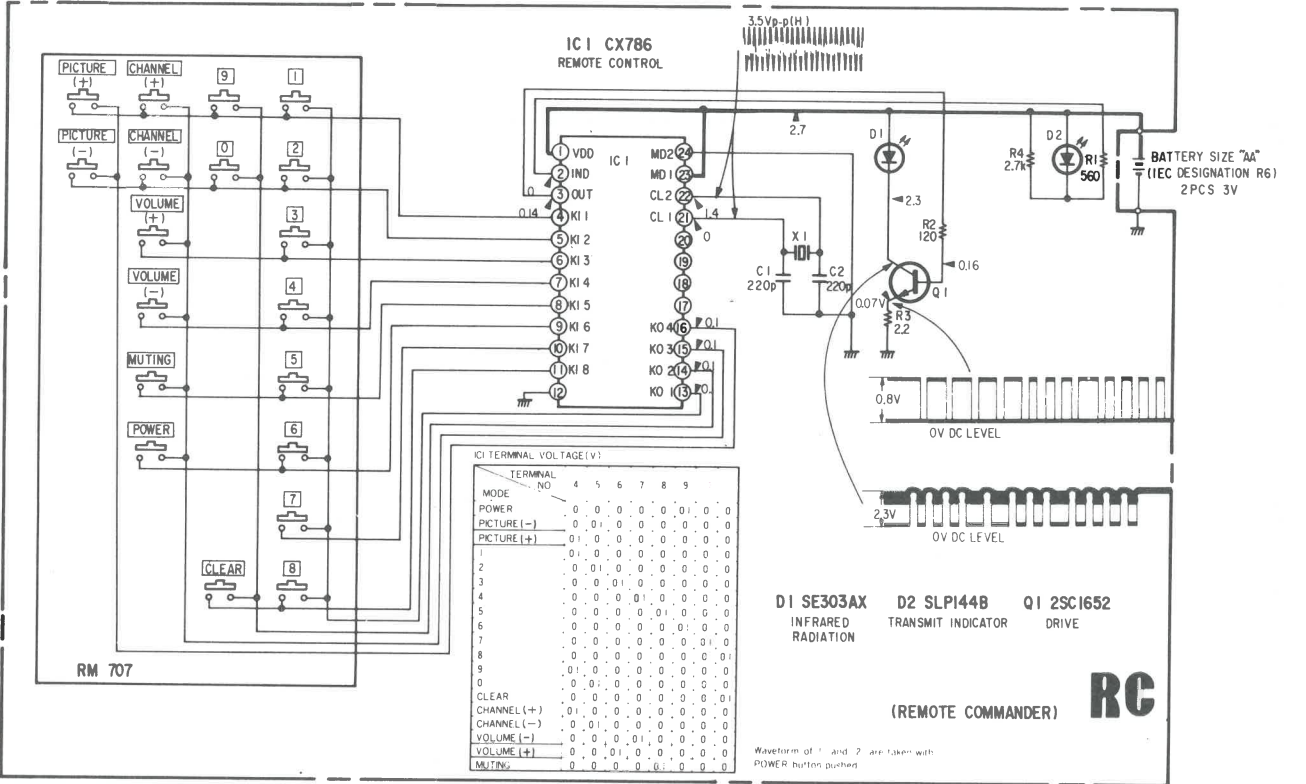


Figure 5

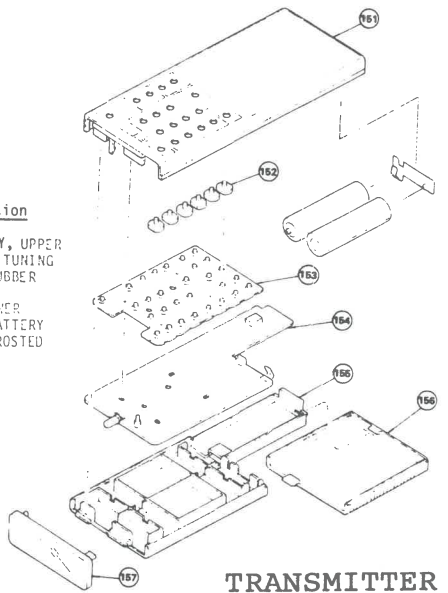


PARTS LIST

Ref.No	Part No	Description	Remark
▲	1-606-953-00	RC BOARD	*****
	4-350-923-00	TERMINAL (A), BATTERY	
	4-350-924-00	TERMINAL (B), BATTERY	
CAPACITOR			
C1	1-161-315-00	CERAMIC 220PF 10% 50V	
C2	1-161-315-00	CERAMIC 220PF 10% 50V	
DIODE			
D1	8-719-193-03	DIODE SE303AX	
D2	8-719-901-44	DIODE SLP144B	
IC			
IC1	8-759-907-86	IC CX786	
TRANSISTOR			
Q1	8-729-965-22	TRANSISTOR 2SC1652	
RESISTOR			
R1	1-246-780-00	CARBON 560 5% 1/8W	
R2	1-246-772-00	CARBON 120 5% 1/8W	
R3	1-246-751-00	CARBON 2.2 5% 1/8W	
R4	1-246-788-00	CARBON 2.7K 5% 1/8W	
CRYSTAL			
X1	1-527-476-00	OSCILLATOR, CERAMIC	

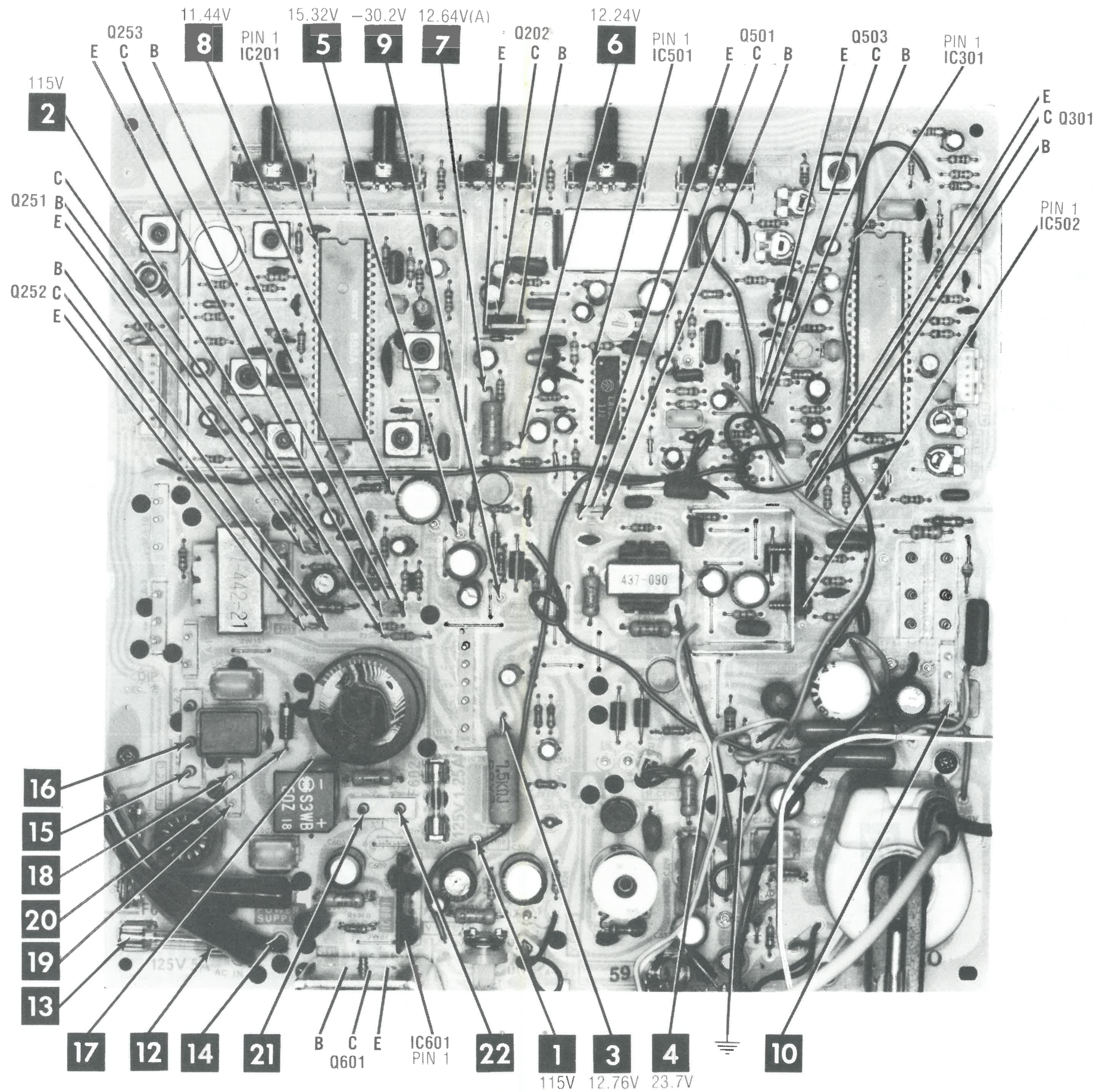
Items marked "▲" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

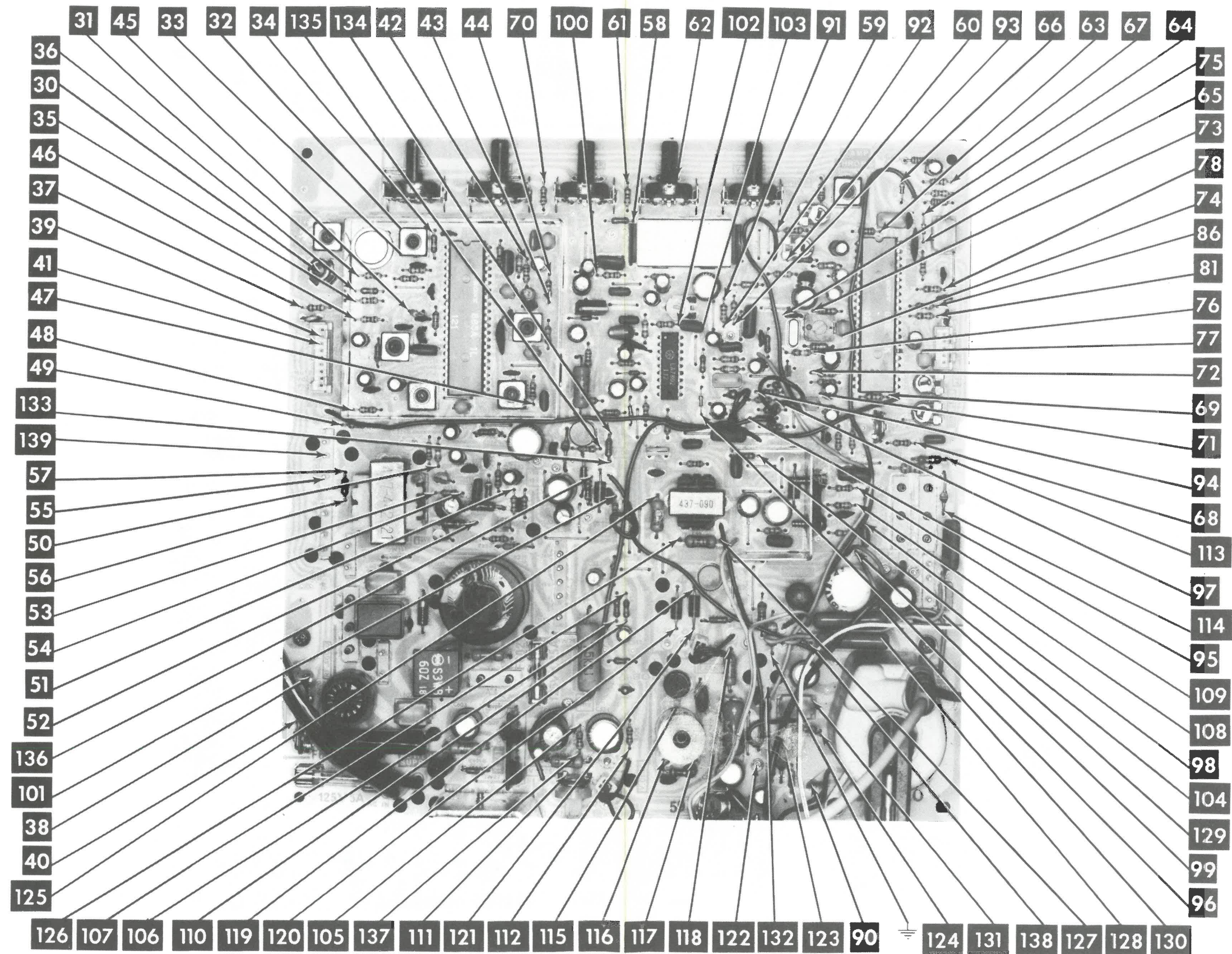
Courtesy of the Manufacturer



SONY CHASSIS SCC-406E-A/F-A

FOLDER 2





SONY CHASSIS
SCC-406E A/F-A

FOLDER 2

MAIN BOARD

34

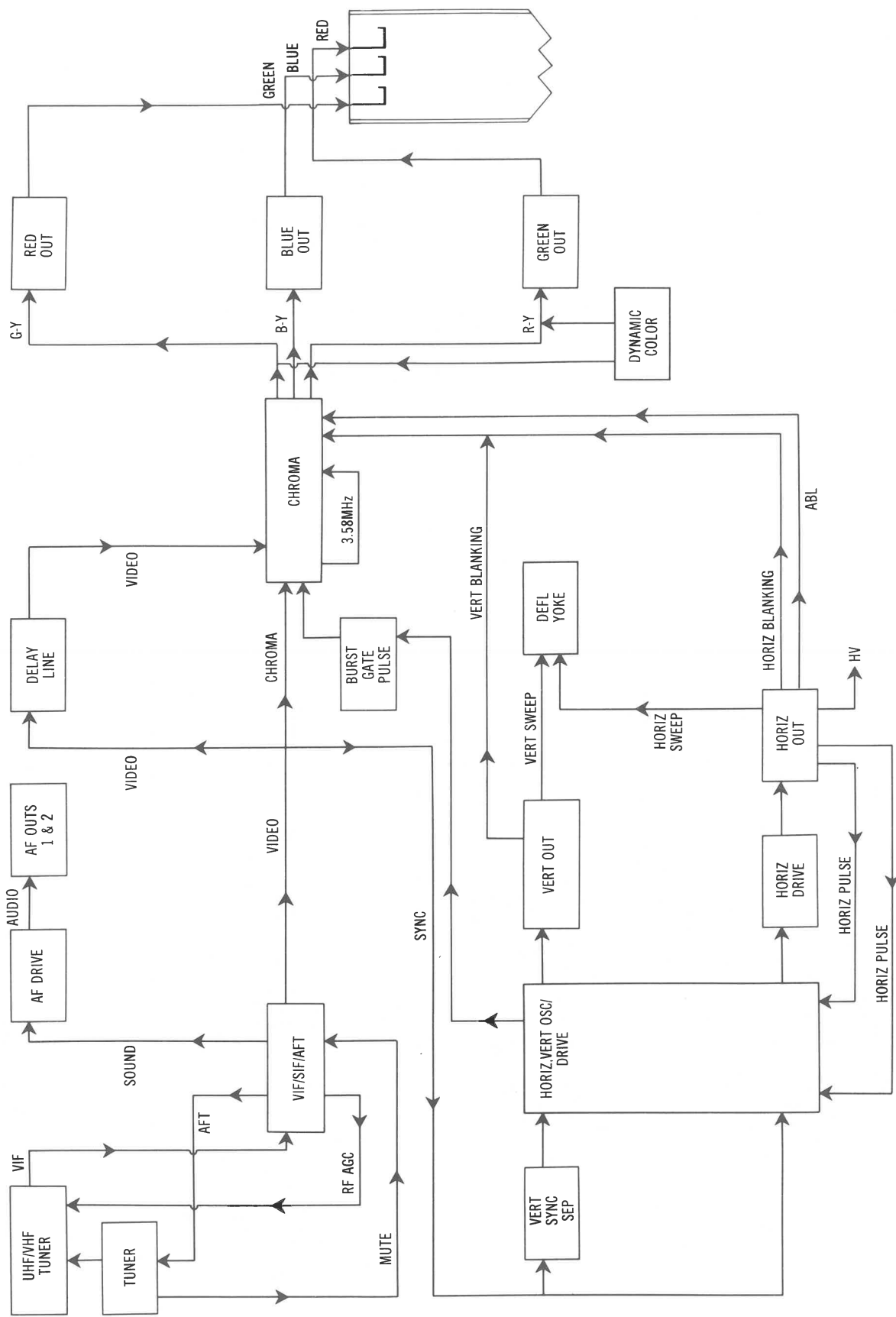
A Howard W. Sams CIRCUITRACE® Photo

SET 2124 FOLDER 2

MAIN BOARD

11

BLOCK DIAGRAM

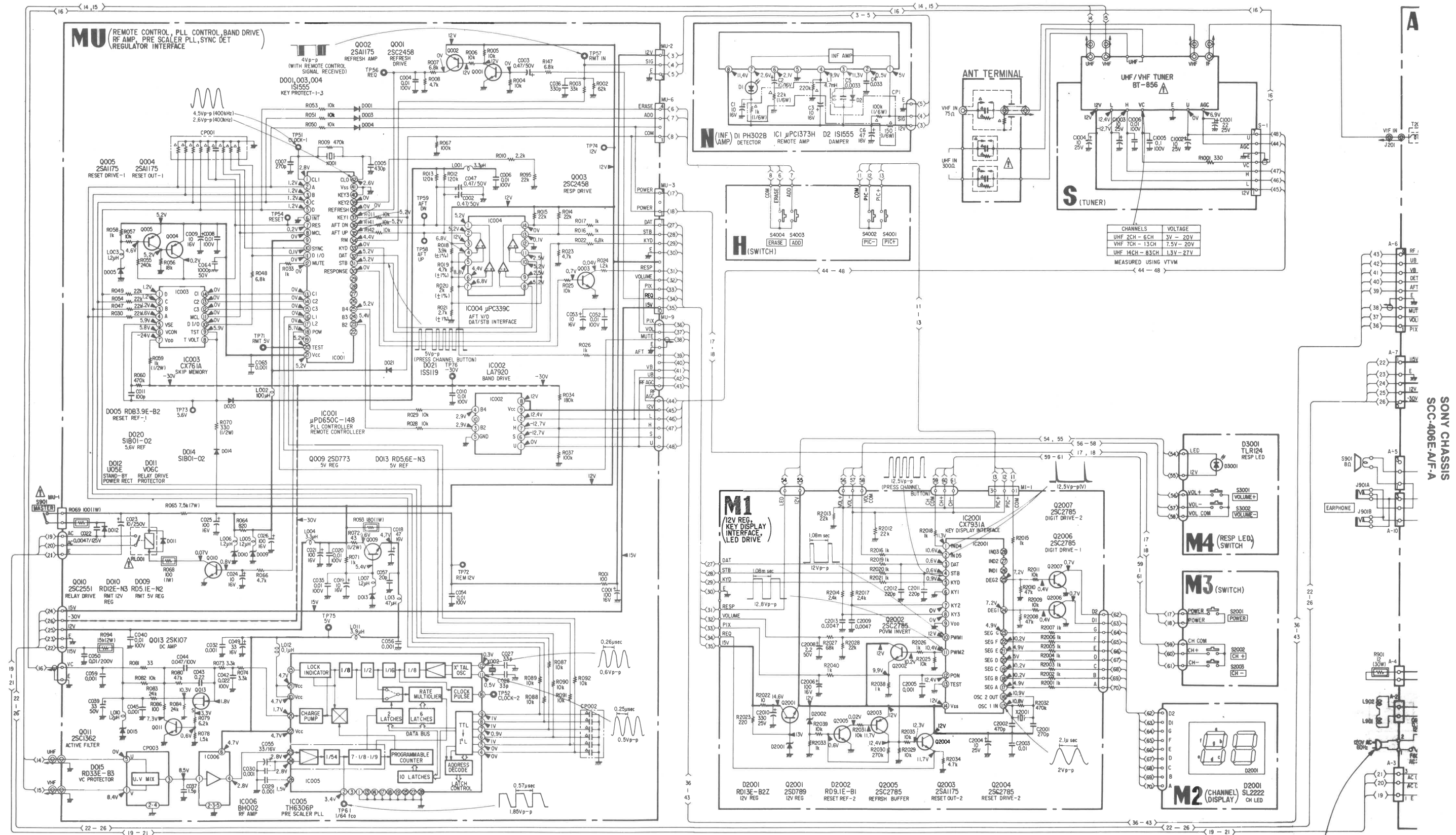


MAIN BOARD GridTrace LOCATION GUIDE

A-1	M-3	C512	G-13	IC301	E-18	R311	F-19	RV304	B-7
A-2	O-3	C513	K-17	IC501	G-12	R312	G-15	RV306	C-16
A-3	N-3	C514	L-15	IC502	K-16	R313	G-16	RV307	B-12
A-4	P-6	C515	K-15	IC601	D-2	R315	H-16	RV308	B-9
A-5	L-2	C516	J-17	J201	D-8	R317	H-15	RV309	H-19
A-6	G-2	C517	L-17	L202	G-8	R318	I-15	RV501	E-12
A-7	M-9	C518	F-12	L203	H-6	R320	D-15	RV502	B-14
A-8	M-19	C519	F-14	L205	E-7	R321	F-16	RV503	S-9
A-9	G-19	C521	G-11	L206	C-18	R322	B-10	S301	B-4
A-10	J-2	C522	J-11	L301	C-19	R323	I-18	SF201	D-3
A-20	O-13	C524A	N-17	L302	H-16	R324	B-19	SG501	Q-13
A-21	S-10	C524B	O-17	L303	G-19	R325	H-17	T201	D-4
C201	C-5	C525	E-11	L304	F-17	R501	E-10	T202	F-8
C202	D-7	C529	Q-14	L306	Q-15	R502	F-11	T203	G-4
C203	D-8	C530	S-12	L501	R-12	R503	F-11	T204	H-7
C204	E-8	C531	P-10	L502	P-12	R504	G-10	T205	H-5
C205	F-7	C532	M-9	L503	I-9	R505	H-11	T206	C-2
C206	I-7	C533	O-10	L504	N-20	R506	J-14	T251	K-3
C207	F-7	C534	R-10	L505	M-13	R507	L-15	T301	B-17
C208	F-5	C535	K-9	L507	N-15	R509	H-14	T501	K-12
C209	F-4	C536	E-13	L509	H-13	R510	I-13	T503	R-18
C210	F-5	C537	S-13	L510	M-3	R511	I-14	T601	Q-2
C211	G-5	C538	P-14	L601	Q-4	R512	G-12	TH201	F-1
C212	H-19	C539	S-14	L602	T-14	R513	F-13	THP601	N-3
C213	E-5	C540	N-18	L903	T-13	R514	O-9	TP2	D-6
C214	H-4	C541	N-17	L904	S-5	R515	J-19	TP3	D-15
C215	G-7	C542	P-16	NL601	E-9	R516	J-17	TP4	F-3
C218	F-9	C543	K-10	Q202	I-16	R517	K-17	TP5	F-18
C220	D-4	C544	K-8	Q301	J-11	R519	F-14	TP6	E-17
C221	I-5	C545	J-8	Q501	E-15	R520	J-12	TP7	B-19
C222	E-9	C546	D-10	Q503	T-6	R521	K-11	TP8	H-16
C223	F-3	C547	H-10	Q601	B-8	R522	L-12	TP9	G-12
C224	H-3	C548	G-10	R200	D-5	R523	H-10	TP11	C-10
C251	J-6	C549	L-20	R201	D-7	R524	M-10	TP12	G-13
C252	J-6	C550	K-14	R202	D-8	R525	N-10	TP31	I-11
C253	J-7	C551	G-14	R203	D-7	R526	N-10	TP81	R-14
C254	K-5	C552	E-11	R204	J-5	R527	R-10	TP85	Q-9
C255	J-6	C554	F-14	R205	F-8	R528	R-9	TP91	J-8
C258	K-6	C601	R-3	R206	E-8	R529	S-9	TP92	J-8
C303	B-11	C602	N-6	R207	H-8	R530	R-9	TP93	K-9
C306	E-16	C603	Q-6	R209	F-3	R531	K-17	TP94	O-14
C307	D-16	C605	R-7	R211	E-3	R533	S-12	TP96	S-10
C308	D-16	C606	R-8	R212	S-15	R538	Q-16	X301	F-15
C309	C-17	C607	R-8	R213	D-4	R541	I-9		
C310	A-19	C608	O-5	R214	E-4	R542	I-10		
C312	A-19	CF201	D-8	R215	G-3	R543	N-13		
C313	I-19	CF202	H-8	R216	F-5	R544	S-15		
C315	F-19	CV301	F-16	R219	H-9	R545	P-13		
C316	E-16	D201	P-1	R220	G-9	R546	N-14		
C317	G-16	D202	R-1	R222	I-6	R547	O-15		
C318	H-16	D203	F-9	R223	E-3	R548	O-15		
C319	G-16	D301	C-19	R226	E-2	R549	K-9		
C320	I-16	D302	B-18	R227	I-3	R550	H-9		
C322	E-16	D500	H-11	R233	F-4	R551	J-19		
C323	E-15	D501	K-15	R234	K-6	R552	K-10		
C324	B-19	D502	G-11	R235	L-7	R553	L-17		
C326	F-15	D503	J-19	R251	K-7	R554	F-13		
C327	B-16	D504	N-12	R252	K-6	R555	H-15		
C328	E-14	D505	N-12	R253	E-3	R556	O-10		
C329	C-18	D508	I-9	R254	L-5	R557	G-13		
C330	D-19	D509	K-10	R255	K-5	R558	I-17		
C332	F-20	D510	R-15	R256	L-7	R559	E-11		
C333	E-19	D511	N-19	R257	K-2	R603	O-6		
C334	E-19	D514	Q-15	R258	D-19	R604	R-6		
C501	D-9	D516	H-13	R259	C-10	R606B	S-6		
C502	E-10	D530	J-9	R260	C-15	R607	N-5		
C503	F-10	D601	P-5	R261	D-15	RV201	P-1		
C504	F-10	DL301	D-12	R300	B-19	RV202	R-1		
C505	H-11	DY-1	K-19	R301	I-16	RV301	D-15		
C506	I-12	DY-2	K-18	R303	E-19	RV302	I-18		
C507	J-14	F601	S-2	R305	E-19	RV303	H-19		
C508	H-13	F602	P-8	R306					
C509	H-13	HORIZ		R307					
C510	I-13	CENTERING	O-13	R309					
C511	F-13	IC201	E-6	R310					

SONY CHASSIS
SCC-406E-A/F-A

FOLDER 2

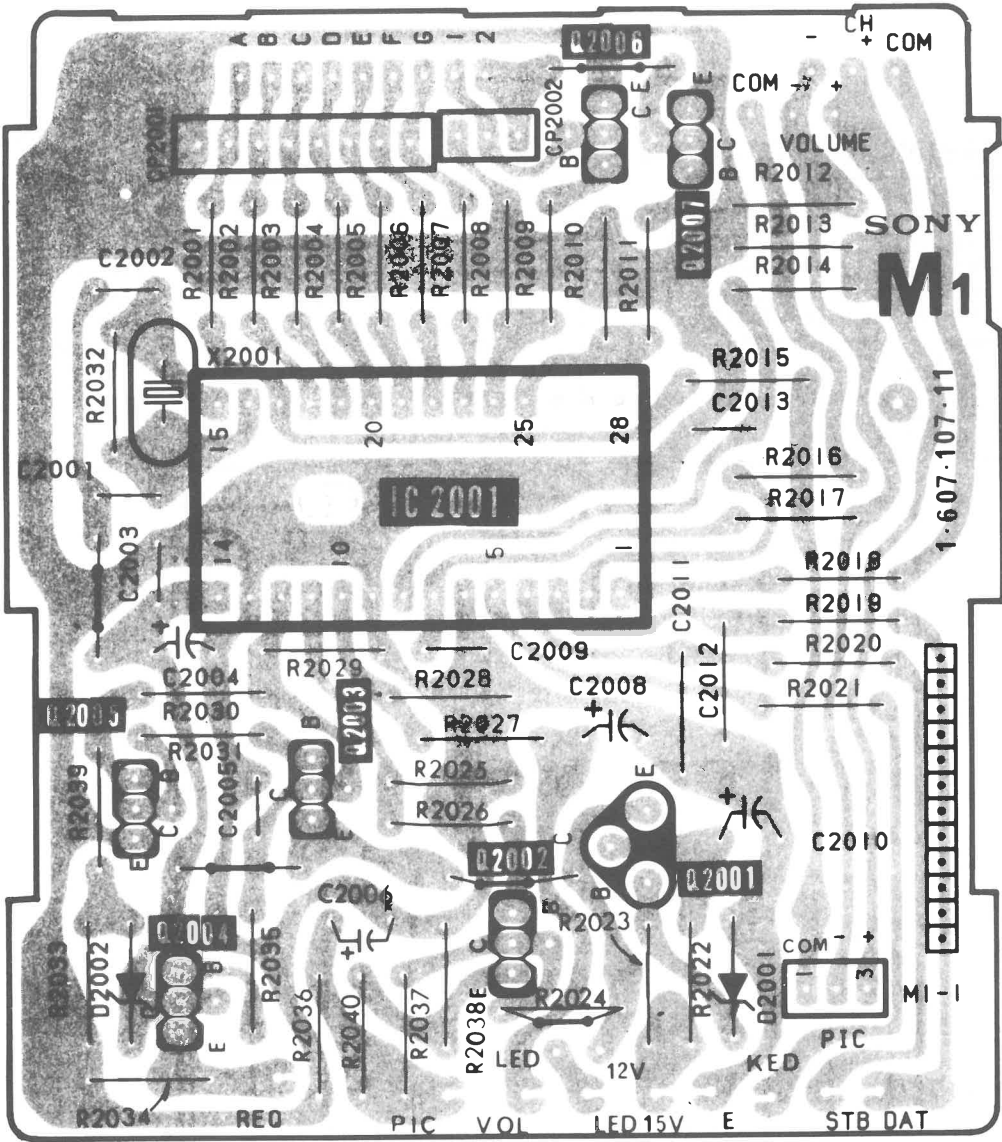


Courtesy of the Manufacturer

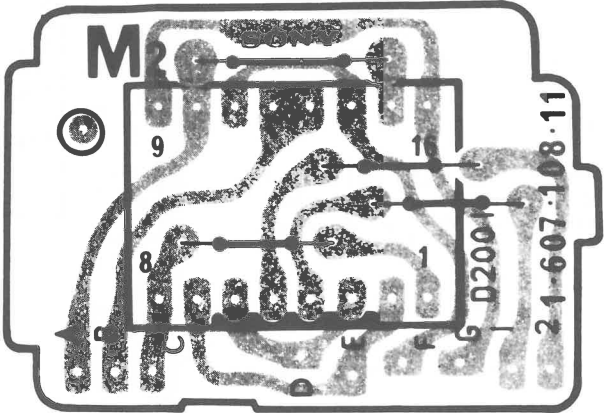
MU BOARD

H, M1, M2, M3, M4, N, S BOARDS

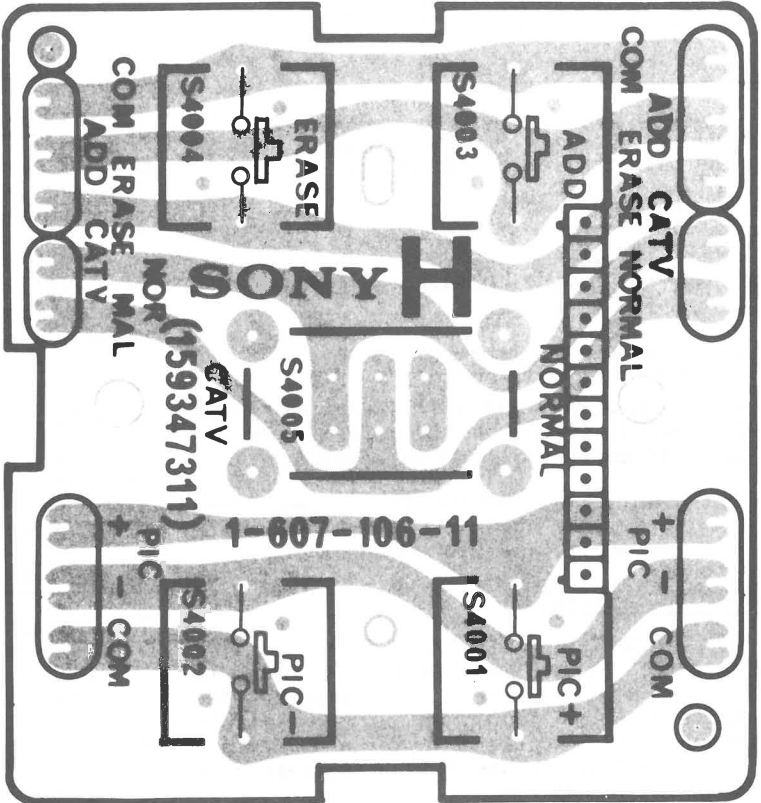
— M1 Board —



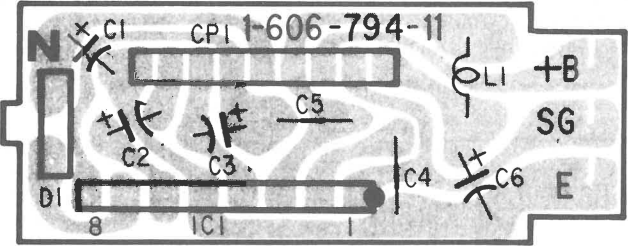
— M2 Board —



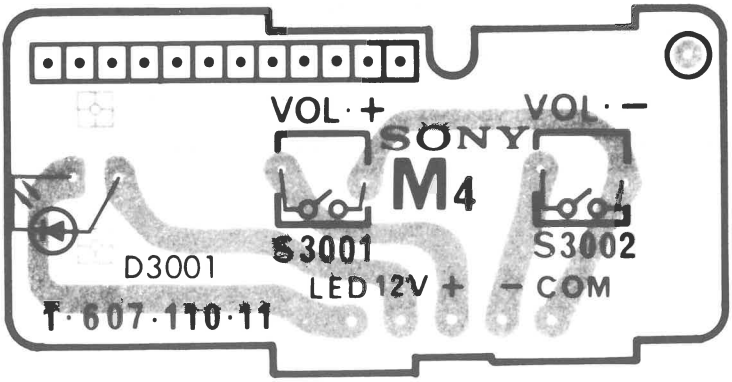
— H Board —



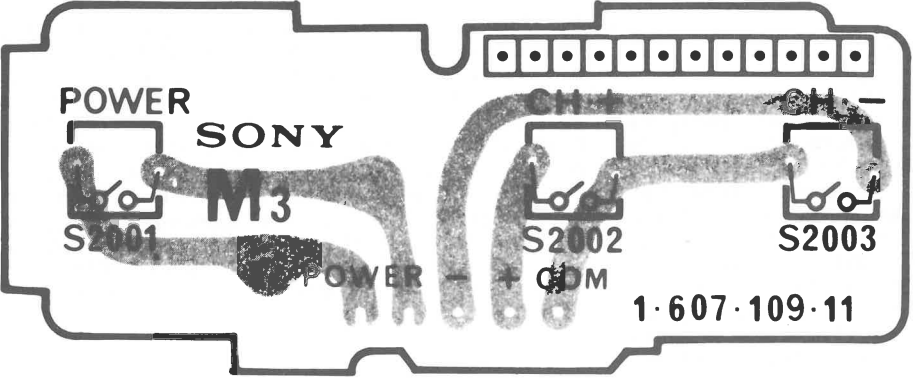
— N Board —



— M4 Board —



— M3 Board —



Courtesy of the Manufacturer

SONY CHASSIS
SCC-406E/A/F-A

MISCELLANEOUS ADJUSTMENTS

HORIZONTAL SIZE ADJUSTMENT

Tune in a picture and adjust Horizontal Size Control (L502) for proper horizontal size.

HORIZONTAL CENTERING ADJUST

Move Connector A-21 to one of the terminals (L, C or R) at Horizontal Centering, whichever gives the best horizontal centering.

VERTICAL CENTERING ADJUST

Move Connector A-20 to one of the terminals (U, C or D) at Vertical Centering, whichever gives the best vertical centering.

VHF AND UHF RF AGC ADJUSTMENT

Tune in a medium strength VHF TV station. Turn VHF AGC Control (RV202) until snow appears and then back off until snow just disappears.

Tune in a medium strength UHF TV station. Turn UHF AGC Control (RV201) until snow appears and then back off until snow just disappears.

SUB BRIGHTNESS ADJUST

Tune in a TV station. Set Auto Switch to Off, Color Control to MINIMUM, Picture Control to MINIMUM, Brightness Control to midrange. Adjust Sub Brightness Control (RV302) for a soft brightness. Set Picture Control to midrange, check all channels to see that brightness does not change excessively.

SUB CONTRAST ADJUST

Set Auto Switch to Off. Tune in a TV station. Set Picture and Brightness Controls to midrange. Adjust Sub Contrast Control (RV301) for suitable contrast. Check all channels to see that contrast does not change excessively.

ACC ADJUST

Tune in a strong TV station. Set Auto Switch to On, Color and Picture Controls to midrange. Adjust ACC Control (RV303) for suitable color intensity.

SHARPNESS ADJUST

Tune in a picture. Adjust Sharpness Control (RV306) for sharpest picture.

COLOR TEMPERATURE ADJUSTMENT

Connect a crosshatch generator to the antenna terminals and tune in a crosshatch pattern. Set the Brightness and Picture Controls to MINIMUM. Turn Green Drive (RV704) and Blue Drive (RV705) Control to Maximum. Turn Red Background (RV701), Blue Background (RV703) and Green Background (RV702) Controls to midrange. Turn Screen Control (RV902B) to obtain a faintly visible crosshatch pattern. Adjust Background Controls for best white balance on the faintly visible pattern. Turn the Brightness and Picture Controls to Maximum. Adjust the Drive Controls for best white balance on the pattern. Check tracking at high and low brightness levels and repeat procedure if necessary.

HORIZONTAL FREQUENCY ADJUSTMENT

Tune in a station. Connect a jumper from TP31 to TP11. Adjust Horizontal Frequency Control (RV501) until picture stops or slowly floats. Remove jumper and check on all channels.

COLOR SYNC ADJUSTMENT

Connect a color bar generator to the antenna terminals and tune in a color bar pattern. Set Auto Switch to On. Set Hue, Color and Picture Controls to mechanical center. Connect a 10K ohm resistor from TP5 to TP6. Conenct a 10K ohm resistor from TP7 to TP93. Connect a jumper from TP8 to TP9. Adjust CV301 until colors stop or slowly floats. Remove resistors and jumper.

HUE CENTERING ADJUSTMENT

Tune in a strong station and set Auto Switch to On. Set Hue Control to mechanical center. Adjust Hue Centering Control (RV309) for correct flesh tones.

CHANNEL PRETUNING

- 1. Connect antenna.
- 2. Depress Master power switch (under top cover).
- 3. Momentarily depress Power switch.

- Erasing Undesired Channels.
- 4. Momentarily depress + or - Channel button to select channel to be erased.
 - 5. Repeat step 4 if necessary.
 - 6. Momentarily depress Erase button. Channel display will momentarily change to - - indicating channel has been removed from memory.
 - 7. Repeat steps 4, 5 and 6 for each chanel to be erased.

- Adding Channels To Memory.
- 8. Follow steps 1, 2 and 3.
 - 9. Momentarily depress numbered buttons on remove transmitter to select channel to be added.
 - 10. Momentarily depress Add button. Channel display will momentarily change to - - indicating the channel has been added to memory.

PURITY ADJUSTMENTS

If the CRT appears to be magnetized, use a degaussing coil to demagnetize CRT and mounting brackets. Loosen deflection yoke and slide ti forward as far as possible. Disconnect leads at B and G on C Board. Adjust purity rings on rear of deflection yoke to center the vertical red band. Slide the deflection yoke back until a uniform red screen is obtained. Reconnect leads at B and G. If necessary, use disc magnets to correct impurity at the corners of the screen. (See Parts List.) Place disc magnets at rear corners of the picture tube.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements. Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.
Cabinet (Model KV-1222R)	X-4358-504-1
Cabinet (Model KV-1223R)	X-4358-504-2
Top Plate (Model KV-1222R)	X-4358-505-1
Top Plate (Model KV-1223R)	X-4358-505-2
Preset Door Assembly (Model KV-1222R)	X-4358-501-1
Preset Door Assembly (Model KV-1223R)	X-4358-501-2

ITEM	PART No.
Button-Picture (2 used)	4-335-304-00
Button-Add, Erase (2 used)	4-335-306-00
Button-Master Power	4-333-101-00
Knob-Auto	4-337-708-00
Knob-Brightness,Color,Hue, Vert Hold (4 used)	4-337-710-00

WIRING DATA

High voltage Lead	Use BELDEN No. 9867 (30 KV)
Shielded Hook-up Wire	Use BELDEN No. 8401 or 8421 (Single-Conductor) 8208 (Two-Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8528 (Solid) Available in 13 Colors 8522 (Stranded) Available in 13 Colors
300-Ohm Tuner Input Lead	Use BELDEN No. 8225
75-Ohm Tuner Input Lead	Use BELDEN No. 8241
300-Ohm Antenna Lead-in	Use BELDEN No. 8275 (Foam Core) or 8285 (Foam Jacketed)
Antenna Rotor Cable	Use BELDEN No. 8464 (Flat) or 8484 (Round) 4-Conductor 8485 (Round) 5-Conductor 8488 (Round) 8-Conductor

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)
Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

MISCELLANEOUS

ITEM No.	PART NAME	MFG. PART No.	NOTES
CF201	Filter	1-409-332-00	Ceramic (4.5MHz)
CF202	Filter	1-527-260-00	Ceramic (4.5MHz)
J201	Jack	1-526-575-00	Video IF Input
L901	Coil	1-425-922-81	Degaussing
L902	Coil	1-425-922-81	Degaussing
NL601	Lamp	1-519-237-11	Neon
NL701	Lamp	1-519-140-00	Neon
P901	Cord	1-551-603-00	AC Power
RL001	Relay	1-515-346-00	
S301	Switch	1-553-176-00	Auto
S901	Switch	1-553-262-00	Power On/Off
SF201	Filter	1-404-227-41	SAW
SG501	Spark Gap	1-519-030-00	
SG701	Spark Gap	1-519-063-XX	
SG702	Spark Gap	1-519-063-XX	
SG703	Spark Gap	1-519-063-XX	
SG704	Spark Gap	1-519-063-XX	
SG705	Spark Gap	1-519-063-XX	
V901	CRT	330ADB22	
X301	Crystal	1-527-722-00	14.31818MHz
	Antenna	Y-2063-103-0	UHF (AN-15) RUSSELL Replacement Antenna LIN-2H
	Antenna	Y-2201-611-0	VHF (AN-16) RUSSELL Replacement Assembly POR-TR RUSSELL Replacement Rod POR-16H
	Board	1-536-592-00	Antenna Terminal
	Connector	1-561-335-00	Antenna (EAC-31)
	Earphonbe	1-504-034-32	
	P.C. Board	A-1295-590-A	"A"
	P.C. Board	A-1330-366-A	"C"
	P.C. Board	1-607-106-00	"H"
	P.C. Board	A-1301-365-A	"M1"
	P.C. Board	1-607-108-00	"M2"
	P.C. Board	1-607-109-00	"M3"
	P.C. Board	1-607-110-00	"M4"
	P.C. Board	A-1306-188-A	"MU"
	P.C. Board	1-606-794-00	"N"
	P.C. Board	1-604-506-00	"S"
	Socket	1-526-691-00	CRT
	Transmitter	A-1009-086-A	Remote Control (RM-707)
	UHF/VHF Tuner	1-463-315-11(5)	PTS Part No. 1-463-315-11
		(BT-856)	(BT-856)
		(1-463-315-00)	(1-463-315-00)

For SAFETY use only equivalent replacement part.
(5) Number on unit.

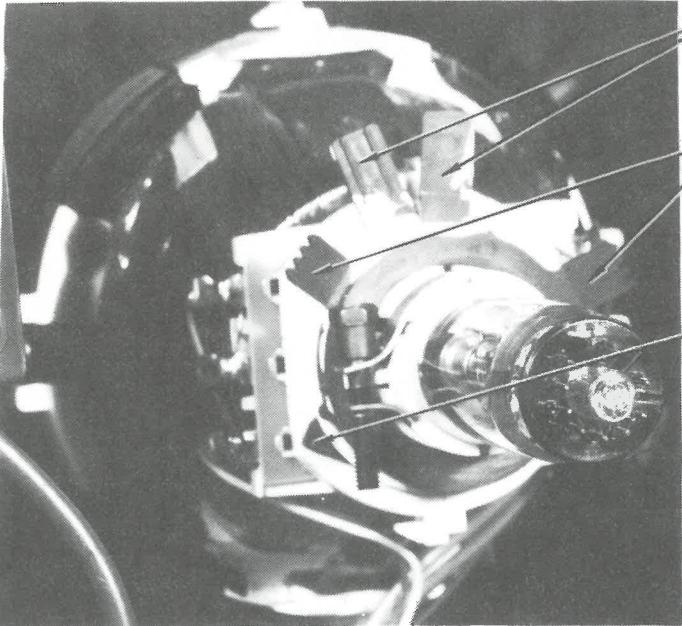
MISCELLANEOUS ADJUSTMENTS (Continued)

CONVERGENCE ADJUSTMENTS

Connect a crosshatch generator to the antenna terminals and tune in a dot pattern. Adjust the Horizontal Stat Control (RV906) to converge the red and blue dots horizontally over the green dot at the center of the screen. Rotate the vertical stat magnets to converge the red and blue dots vertically over the green dot at the center of the screen. NOTE: Rotate the two Vertical Stat Magnets equally, one to the right and one to the left from vertical positon. NOTE: Some versions may use a BMC Magnet. To adjust the BMC Magnet slide it in and out to correct for insufficient horizontal stat convergence. Rotate the BMC Magnet to correct for insufficient vertical stat convergence.

Tune in a crosshatch pattern. If necessary remove the rubber wedges between the deflection yoke and CRT. Tilt the deflection yoke up or down to converge the vertical lines at the top and bottom of the screen and the horizontal lines at the right and left sides of the screen. Tilt the deflection yoke to the right or left to converge the horizontal lines at the top and bottom of the screen and vertical lines at the right and left sides of the screen. Replace the rubber wedges. To correct the convergence at the corners of the screen, slide a permalloy magnet assembly between the CRT and the deflection yoke behind the areas affected on the screen. Position the permalloy assemblies for the best horizontal and vertical convergence correction in the corners affected.

Repeat appropriate convergence procedures if necessary to obtain the best overall convergence.



PURITY
RINGS

VERTICAL
STAT
MAGNETS

BMC
MAGNETS

SONY CHASSIS
SCC-406E-A/F-A

FOLDER 2

CRT NECK ASSEMBLY

ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

Δ =>: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Items marked " Δ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
 Δ MF : μ F, PF : μ PF

RESISTORS
 Δ All resistors are in ohms
 Δ F : nonflammable

COILS
 Δ MMH : mH, UH : μ H

Ref.No Part No Description

H

Δ :1-607-106-00 H BOARD

SWITCH

S4001 1-553-685-00 SWITCH, PUSH
S4002 1-553-685-00 SWITCH, PUSH
S4003 1-553-685-00 SWITCH, PUSH
S4004 1-553-685-00 SWITCH, PUSH

M1

Δ :A-1301-365-A M1 BOARD, COMPLETE

Δ :1-555-706-41 CONNECTOR ASSY (2.5MM) 10P

DIODE

D2001 Δ 8-719-100-68 DIODE RD13E-B2
D2002 8-719-100-50 DIODE RD9.1EB1

IC

IC2001 8-759-905-09 IC CX-7931A

CONNECTOR

M1 Δ :1-560-123-00 PLUG, CONNECTOR (2.5MM) 3P
M1 Δ :1-560-123-00 PLUG, CONNECTOR (2.5MM) 3P

TRANSISTOR

Q2001 Δ 8-729-177-43 TRANSISTOR 2SD774
Q2002 8-729-178-54 TRANSISTOR 2SC2785
Q2003 8-729-117-54 TRANSISTOR 2SA1175
Q2004 8-729-178-54 TRANSISTOR 2SC2785
Q2005 8-729-178-54 TRANSISTOR 2SC2785

Q2006 8-729-178-54 TRANSISTOR 2SC2785
Q2007 8-729-178-54 TRANSISTOR 2SC2785

CRYSTAL

X2001 1-527-476-00 OSCILLATOR, CERAMIC

M2

Δ :1-607-108-00 M2 BOARD

DIODE

D2001 8-719-901-99 DIODE SL-2222

Ref.No Part No Description

M3

Δ :1-607-109-00 M3 BOARD

SWITCH

S2001 1-553-075-21 SWITCH, PUSH
S2002 1-553-075-21 SWITCH, PUSH
S2003 1-553-075-21 SWITCH, PUSH

CONNECTOR

MU3 Δ :1-555-708-00 CONNECTOR ASSY (2.5MM) 3P

M4

Δ :1-607-110-00 M4 BOARD

Δ :4-358-502-00 HOLDER, LED

DIODE

D3001 8-719-812-41 DIODE TLR124

SWITCH

S3001 1-553-075-21 SWITCH, PUSH
S3002 1-553-075-21 SWITCH, PUSH

MU

Δ :A-1306-188-A MU BOARD, COMPLETE

Δ :1-551-797-00 CONNECTOR 7P
 Δ :1-556-250-00 CABLE, PIN (WITH EYELET)
 Δ :4-357-227-00 CASE (MAIN), SHIELD
 Δ :4-357-228-00 LID, REAR, SHIELD CASE
 Δ :4-357-229-00 LID, FRONT, SHIELD CASE

CONNECTOR

A3 Δ :1-555-043-00 CONNECTOR ASSY (LARGE) 3P
A6 Δ :1-551-660-00 CONNECTOR ASSY (9P)
A7 Δ :1-551-573-22 CONNECTOR ASSY, MINIATURE 5P

COIL

L001 1-407-184-XX MICRO INDUCTOR 3.3UH
L002 1-407-705-00 MICRO INDUCTOR 100UH

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements. Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA		NOTES
	PRI.	SEC.	MFGR. PART No.	THÓRDARSON PART No.	
# T251	512	8	1-427-442-00 427-442-21 (1)		

For SAFETY use only equivalent replacement part.
(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP901	4" PM 8 Ohms	1-502-893-00	4A05Z8R	

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA				
		MFR. PART No.		BUSS PART No.		NOTES
		DEVICE	HOLDER	DEVICE	HOLDER	
# F601	5A @ 125V Slow-Blow	1-532-272-XX		MDX5	1A1907-02	
# F602	1.25A @ 250V Quick-Acting	1-532-570-00		GDB1.25		

For SAFETY use only equivalent replacement part.

H, M1, M2, M3, M4, MU BOARDS

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

COILS (RF-IF)

ITEM No.	FUNCTION	MFGR. PART No.	ITEM No.	FUNCTION	MFGR. PART No.
DL301	Delay Line	1-415-240-00	# L601	RF Choke (3.3uH)	1-408-225-00
L202	Peaking (18uH)	1-408-445-11	# L602	RF Choke (3.3uH)	1-408-225-00
L203	RF Choke (3.3uH)	1-408-403-00	L701	Peaking (82uH)	1-408-420-00
L205	RF Choke (8.2uH)	1-408-408-00	L702	Peaking (82uH)	1-408-420-00
L206	Peaking (3.3uH)	1-408-403-00	L703	Peaking (82uH)	1-408-420-00
L301	Peaking (68uH)	1-407-703-00	L704	RF Choke (180uH)	1-408-424-00
L302	RF Choke (5.6mH)	1-408-163-00	L705	RF Choke (68uH)	1-407-703-00
L303	RF Choke (1.2uH)	1-408-398-00	L903	RF Choke	1-408-349-00
L304	RF Choke (1.2uH)	1-408-398-00	L904	RF Choke	1-407-365-00
L306	Chroma Oscillator (1.2uH)	1-408-398-00	T201	Video IF	1-404-321-00
L501	RF Choke (39uH)	1-408-348-00	T202	Video IF	1-404-182-00
L503	Horiz Linearity	1-459-347-00	T203	Video IF	1-404-181-00
L504	RF Choke (4.7mH)	1-407-500-00	T204	Sound IF	1-403-367-00
L505	RF Choke (18uH)	1-407-696-00	T205	Quadrature	1-404-318-00
L507	RF Choke (2.2mH)	1-407-198-XX	T206	Video IF	1-404-153-00
L509	RF Choke	1-421-443-00	T301	Chroma Bandpass	1-425-995-00
L510	RF Choke (1.5mH)	1-407-494-00	# T601	Line Filter	1-421-357-31

For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS (Sweep Circuits)

ITEM No.	FUNCTION	REPLACEMENT DATA		
		MFGR. PART No.	OTHER IDENTIFICATION	THORDARSON PART No.
# DY	Yoke Horiz 3.1mH 90° Vert 32mH	1-451-200-00	1-451-200-11	
# L502	Horiz Size	1-459-348-00	348-11	
# T501	Horiz Driver	1-437-090-00	437-090	
# T503	Horiz Output	1-439-472-12	1-439-472-12	

For SAFETY use only equivalent replacement part.

MU

Ref.No	Part No	Description
L003	1-407-179-00	MICRO INDUCTOR 1.2UH
L004	1-407-184-XX	MICRO INDUCTOR 3.3UH
L005	1-407-179-00	MICRO INDUCTOR 1.2UH
L006	1-407-179-00	MICRO INDUCTOR 1.2UH
L007	1-407-179-00	MICRO INDUCTOR 1.2UH
L010	1-407-179-00	MICRO INDUCTOR 1.2UH
L011	1-407-688-00	MICRO INDUCTOR 3.9UH
L012	1-420-945-00	COIL, AIR-CORE
L013	1-407-701-00	MICRO INDUCTOR 47UH

CONNECTOR

MU1	♣:1-508-786-00	2P PLUG (M)
MU2	♣:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
MU3	♣:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
MU6	♣:1-560-124-00	PLUG, CONNECTOR (2.5MM) 4P
MU9	♣:1-560-224-00	PLUG, CONNECTOR (2.5MM) 10P

TRANSISTOR

Q001	=>8-729-178-54	TRANSISTOR 2SC2785
Q002	8-729-117-54	TRANSISTOR 2SA1175
Q003	=>8-729-178-54	TRANSISTOR 2SC2785
Q004	8-729-117-54	TRANSISTOR 2SA1175
Q005	8-729-117-54	TRANSISTOR 2SA1175

Q007	8-729-117-54	TRANSISTOR 2SA1175
Q008	=>8-729-178-54	TRANSISTOR 2SC2785
Q009	8-729-177-32	TRANSISTOR 2SD773
Q010	8-729-255-12	TRANSISTOR 2SC2551
Q011	8-729-665-47	TRANSISTOR 2SC1362

Q013	=>8-769-200-20	TRANSISTOR 2SK107-2
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DIODE

D001	=>8-719-911-19	DIODE 1SS119
D003	=>8-719-911-19	DIODE 1SS119
D004	=>8-719-911-19	DIODE 1SS119
D005	8-719-100-21	DIODE RD3.9EB2
D009	8-719-102-68	DIODE RD5.1EN2

D010	8-719-102-98	DIODE RD12EN3
D011	=>8-719-900-93	DIODE V09C
D012	=>8-719-911-55	DIODE U05G
D013	8-719-102-72	DIODE RD5.6EN3
D014	=>8-719-200-02	DIODE 10E2

D015	8-719-101-07	DIODE RD33EB3
D019	=>8-719-911-19	DIODE 1SS119
D020	=>8-719-200-02	DIODE 10E2
D021	8-719-911-19	DIODE 1SS119

Ref.No	Part No	Description
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IC

IC001	8-759-100-62	IC UPD650C148
IC002	8-759-800-12	IC LA7920
IC003	8-757-611-00	IC CX-761A
IC004	8-759-133-90	IC UPC339C
IC005	8-759-263-06	IC TD6306P

IC006	1-235-111-00	MODULE, RF AMP
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RELAY

RL001	♣:1-515-346-00	RELAY
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POST PIN

TP56	1-536-354-00	POST PIN
TP61	1-536-354-00	POST PIN
TP76	1-536-354-00	POST PIN

CRYSTAL

X001	1-527-532-00	OSCILLATOR, CERAMIC
X002	1-527-726-00	VIBRATOR, CRYSTAL

N

♣:1-606-794-00	N BOARD

DIODE

D1	8-719-110-32	DIODE PH302B
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IC

IC1	8-759-113-73	IC UPC1373H
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COIL

L1	1-404-310-00	COIL
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S

♣:1-604-506-00	S BOARD

CONNECTOR

S1	♣:1-560-127-00	PLUG, CONNECTOR (2.5MM) 7P
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SONY CHASSIS
SCC-406E-A/F-A

FOLDER 2

MU, N, S BOARDS

PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)
Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

SEMICONDUCTORS (Select replacement transistor for best results)

REPLACEMENT DATA								REMARKS
ITEM No.	TYPE No.	MFGR. PART No.	GENERAL ELECTRIC PART No.	TCG PART No.	RCA PART No.	EGG PART No.	WORKMAN PART No.	
D011	V06C	8-719-900-93	GE-511	TC0558	SK9000/552	EG0552	WEP152/552	MR1-1400
D012	V09C		GE-511	TC0558	SK9000/552	EG0552	WEP152/552	MR1-1400
	U05E		GE-512	TC05804	SK9007/5804	EG05804	WEP4004/5804	MR504
D201	U05G	8-719-911-55	GE-515	TC05806	SK3848/5806	EG05806	WEP4006/5806	MR506
D202	1SS119	8-719-911-19	GE-514	TC0519	SK3100/519	EG0519	WEP925/519	1N4935
	1SS119	8-719-911-19	GE-514	TC0519	SK3100/519	EG0519	WEP925/519	1N4935
D203	RD13E-BZZ	8-719-100-68	GEZD-13	TC05022A	SK3788/5022A	EG05022A	WEP1424/5022	1N5243B
D301	1SS119	8-719-911-19	GE-514	TC0519	SK3100/519	EG0519	WEP925/519	1N4935
D302	1SS119	8-719-911-19	GE-514	TC0519	SK3100/519	EG0519	WEP925/519	1N4935
D500	1SS119	8-719-911-19	GE-514	TC0519	SK3100/519	EG0519	WEP925/519	1N4935
D501	S1B01-02		GE-504A	TC0116	SK3311	EG0116	WEP158	1N4003
	V09C	8-719-900-93	GE-511	TC0558	SK9000/552	EG0552	WEP152/552	MR1-1400
D502	RD5-6E-BZZ	8-719-156-25	GEZD-5.6	TC05011A	SK3777/5011A	EG05011A	WEP1412/5011	1N5232B
D503	RD5-6E-BZTS		GEZD-5.6	TC05011A	SK3777/5011A	EG05011A	WEP1412/5011	1N5232B
D504	V30N	8-719-903-09	GE-511	TC0558	SK9000/552	EG0552	WEP152/552	MR1-1400
	S1B01-02		GE-504A	TC0116	SK3311	EG0116	WEP158	1N4003
	V09C	8-719-900-93	GE-511	TC0558	SK9000/552	EG0552	WEP152/552	MR1-1400
D505	S1B01-02		GE-504A	TC0116	SK3311	EG0116	WEP158	1N4003
	V09C	8-719-900-93	GE-511	TC0558	SK9000/552	EG0552	WEP152/552	MR1-1400
D508	V19E	8-719-901-09	GE-511	TC0558	SK9000/552	EG0552	WEP152/552	MR1-1400
D509	S1B01-02		GE-504A	TC0116	SK3311	EG0116	WEP158	1N4003
	V09C	8-719-900-93	GE-511	TC0558	SK9000/552	EG0552	WEP152/552	MR1-1400
D510	V19CS	8-719-901-94	GE-511	TC0558	SK9000/552	EG0552	WEP152/552	MR1-1400
D511	RH1-A	8-719-300-76	GE-511	TC0558	SK9000/552	EG0552	WEP152/552	MR1-1400
D514	V19E	8-719-901-93	GE-511	TC0558	SK9000/552	EG0552	WEP152/552	MR1-1400
D516	1SS119	8-719-911-19	GE-514	TC0519	SK3100/519	EG0519	WEP925/519	1N4935
D530	RD30FB2	8-719-160-84	GEZD-30	TC05084A	SK3755/5084A	EG05084A	WEP1167/5084	1N4751A
D601	S3WB60Z	8-719-503-06	GEER-1000	TC05315	SK3988/5315	EG05315	WEP1054/169	MDA806
D701	1SS119	8-719-911-19	GE-514	TC0519	SK3100/519	EG0519	WEP925/519	1N4935
D702	1SS119	8-719-911-19	GE-514	TC0519	SK3100/519	EG0519	WEP925/519	1N4935
IC201	CX-885A	8-758-851-00						
IC301	CX-848	8-758-480-00						

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	SPRAGUE/ Q-LINE PART No.	WORKMAN PART No.
R219	22K 1% 1/4W Carbon Film	1-214-761-00		
R220	18K 1% 1/4W Carbon Film	1-214-759-00		
R222	12 5% 2W Metal Oxide Non-Flammable	1-206-465-00		22-4050
R226	100 5% 1/8W Carbon Film Non-Flammable	1-211-427-00	QUP-1148	22-1072
R256	33 5% 1/2W Carbon Film Non-Flammable	1-211-602-00	QUP-2124	22-2060
R257	33 5% 1/2W Carbon Film Non-Flammable	1-211-602-00	QUP-2124	22-2060
R259	47 5% 1/4W Fusible Non-Flammable	1-217-395-00		
R514	7500 5% 3W Metal Oxide Non-Flammable	1-206-746-00		
R515	680 5% 1/4W Carbon Film Non-Flammable	1-247-011-00	QUP-1188	22-1092
R522	560 5% 1W Metal Oxide Non-Flammable	1-213-140-00		22-3090
R523	.33 5% 1W Metal Oxide Non-Flammable	1-212-354-00		
R524	82K 1% 1/4W Carbon Film	1-214-775-00		
R531	1.8 5% 1W Metal Oxide Non-Flammable	1-212-363-00		
R538	470 5% 1/4W Carbon Film Non-Flammable	1-247-009-00	QUP-1180	22-1088
R541	8200 1% 1/4W Carbon Film	1-214-751-51		
R542	1.2 5% 1/8W Carbon Film Non-Flammable	1-246-979-00	QUP-2015	
R544	22 5% 1/8W Carbon Film Non-Flammable	1-211-417-00	QUP-1116	22-1056
R545	2200 5% 1/8W Carbon Film Non-Flammable	1-246-996-00	QUP-1212	22-1104
R546	4300 1% 1/4W Carbon Film	1-214-744-00		
R547	150 5% 1W Metal Oxide Non-Flammable	1-213-133-00		22-3076
R548	82K 1% 1/2W Carbon Film	1-214-911-21		
R551	47 5% 1/8W Carbon Film Non-Flammable	1-211-933-00	QUP-1132	22-1064
R559	82K 5% 1/4W Carbon Film	(1)	RA-8235	22-1142
R603	47K 5% 1W Metal Oxide Non-Flammable	1-213-163-00		22-3136
R604	27K 5% 1W Metal Oxide Non-Flammable	1-213-160-00		22-3130
R606B	150 5% 1/8W Carbon Film Non-Flammable	1-246-991-00	QUP-1156	22-1076
R607	1M 10% 1/2W Carbon	1-202-719-00	RB-1055	22-2168
R708	15K 5% 2W Metal Oxide Non-Flammable	1-206-692-00		22-4124
R710	15K 5% 2W Metal Oxide Non-Flammable	1-206-692-00		22-4124
R712	15k 5% 2W Metal Oxide Non-Flammable	1-206-692-00		22-4124
R901	12 5% 30W WW Non-Flammable	1-205-663-00		
R902	270 10% 20W WW Non-Flammable	1-205-604-00		
TH201	1500 Cold NTC	1-800-626-00		FR-1014
THP601	5.6 Cold PTC	1-800-686-31		FR-605

For SAFETY use only equivalent replacement part.
(1) Nominal value.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)
Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA		
			SPRAGUE PART No.		
			Q-LINE	GENERAL LINE	
C901 CV301	330 2KV 330 1200V 15 Trimmer	1-102-155-00 1-141-147-XX			

For SAFETY use only equivalent replacement part.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESISTANCE	MFR. PART No.	REPLACEMENT DATA	NOTES
				TRW PART No.	
RV201 RV202 RV301 RV302 RV303 RV304	UHF AGC VHF AGC Sub Contrast Sub Brightness ACC Brightness	4700 4700 470 10K 10K 10K	1-226-135-00 1-226-135-00 1-226-846-00 1-226-136-00 1-226-851-00 1-226-078-00	X201R502B X201R502B U260R501B X201R103B U260R103B	
RV306 RV307 RV308 RV309	Sharpness Tint (Hue) Color Tint (Hue) Centering	10K 10K 10K 10K	1-226-851-00 1-226-075-00 1-226-075-00 1-226-851-00	U260R103B U260R103B	
RV501 RV502 RV503 RV701 RV702 RV703 RV704 RV705 RV902A RV902B RV906	Horiz Frequency Vert Hold Vert Height (Size) Red Background Green Background Blue Background Green Drive Blue Drive Focus Screen Horiz Stat	5000 10K 470 3300 3300 3300 330 330 40M	1-228-160-11 1-226-075-00 1-228-224-00 1-226-209-00 1-226-209-00 1-226-209-00 1-224-640-XX 1-224-640-XX 1-228-159-00 1-228-159-12 (5)	U260R502B X260R501B U260R502B U260R502B U260R502B U260R501B U260R501B	

For SAFETY use only equivalent replacement part.
(5) Number on unit.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)
Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

SEMICONDUCTORS (Select replacement transistor for best results) (cont)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA							REMARKS
			GENERAL ELECTRIC PART No.	TCG PART No.	RCA PART No.	ECG PART No.	WORKMAN PART No.	ZENITH PART No.	MOTOROLA PART No.	
IC501	LA7802	8-759-878-03								
IC502	UPC1378H	8-759-113-78								
IC601	DM-8	1-235-031-00								
Q202	2SC1419B		GE-66A	TCG152	SK3197/235	ECG152	WEP745/152	121-987-03	TIP41A	
	2SC1061	8-729-316-16	GE-66A	TCG152	SK3893/152	ECG152	WEP745/152	121-987-03	TIP41A	
Q251	2SC1890AE	8-729-309-06	GE-220*	TCG90	SK3931/90	ECG90	WEP64/194*	121-881*	2N5550*	
Q252	2SC2383-O	8-729-238-32								
Q253	2SA1013-O	8-729-201-32								
Q301	2SC633		GE-47	TCG85	SK3124/289	ECG85	WEP736/123A*	121-Z9000A*	MPSA05*	
	2SC634SP	8-729-600-27	GE-220*	TCG85	SK3124/289	ECG85	WEP634	121-Z9000A*	MPSA05*	
	2SC945		GE-212	TCG85	SK3124/289	ECG85	WEP1945	121-972*	MPSA18*	
Q501	2SC2688	8-729-168-82	GE-232	TCG157	SK3747/157	ECG157	WEP61/157	121-Z9016	MJE340	
Q503	2SA1175F	8-729-117-54	GE-82*	TCG159*	SK3114/290	ECG159	WEP62/159	921-1311	2N5401	
	2SA733		GE-48	TCG290A	SK3114/290	ECG290A	WEP62/159*	121-Z9067	2N4403*	
Q601	MN8303	8-729-383-03		TCG379	SK9085/379	ECG379		121-Z9111		
Q701	2SC2278	8-729-322-78	GE-301	TCG171	SK3201/171	ECG171	WEP702/171	121-822	MPSU10	
Thru Q703										
Q704	2SC2458GR		GE-81	TCG85	SK3124/289	ECG85	WEP910/289	921-1314	2N4401*	
	2SC2785	8-729-178-54	GE-81	TCG85	SK9229/85	ECG85	WEP910/289	921-1325	2N4401*	
Q901	2SD898B	8-729-398-09		TCG89	SK9119/89	ECG89				

For SAFETY use only equivalent replacement part.
* Lead configuration may vary from original.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA		NOTES
			SPRAGUE PART No.		
			Q-LINE	GENERAL LINE	
C023	10 250V	1-123-254-00	QCP-3128-01	TVA-1504*	
C203	.1 50V 20%	1-123-586-00			
C204	.22 50V 20%	1-123-447-00			
C206	1000 16V 20%				
	220 16V 20%	1-123-321-00			
C212	1 50V 20%	1-123-380-00			
C214	10 16V 20%	1-123-356-00			
C218	47 16V 20%	1-123-332-00			
C221	10 16V 20%	1-123-356-00			
C222	47 16V 20%	1-123-332-00			
C223	1 50V 20%	1-123-380-00			
C253	2.2 100V 20%	1-123-381-00			
C254	2.2 160V	1-123-026-00			
C255	33 16V 20%	1-123-318-00			
C306	.22 50V 20%	1-123-447-00			
C308	22 16V 20%	1-123-330-00			
C312	2.2 50V 20%	1-123-381-00			
C315	.33 50V 20%	1-123-286-00			
C316	.22 50V 20%	1-123-447-00			
C318	.47 50V 20%	1-123-379-00			
C319	10 16V	1-121-259-51			
C320	.47 50V 20%	1-123-379-00			
C323	100 16V 20%	1-123-333-00			
C501	1 50V 20%	1-123-380-00			
C505	22 16V 20%	1-123-330-00			
C508	1 25V 10%	1-131-236-00			
C509	1 50V 20%	1-123-380-00			
C511	1 50V 20%	1-123-380-00			
C515	100 35V 20%	1-123-345-00			
C525	1 50V 20%	1-123-380-00			
C531	2.2 25V 10%	1-131-349-00			
C532	.33 50V 20%	1-123-286-00			
C533	.22 50V 20%	1-123-447-00			
C534	330 50V 20%	1-123-362-00			
C535	22 50V 20%	1-123-357-00			
C536	470 16V 20%	1-123-323-00			
C537	220 35V 20%	1-123-346-00			
C539	22 50V 20%	1-123-357-00			
C540	10 160V	1-121-999-00			
C541	33 160V	1-121-757-00			
C542	4.7 160V	1-121-246-00			
C544	330 25V 20%	1-123-335-00			
C547	22 50V 20%	1-123-357-00			
C548	22 16V 20%	1-123-330-00			
C550	47 35V 20%	1-123-344-00			
C551	4.7 25V 20%	1-123-328-00			
C552	.1 50V 20%	1-123-586-00			
C602	220 200V	1-125-258-00			
C603	4.7 160V	1-121-246-00			
C606	10 160V	1-121-999-00			
C607	4.7 50V 20%	1-123-369-00			
C702	10 50V 20%	1-123-356-00			
				TVA-1504*	

* Axial replacement for radial device.

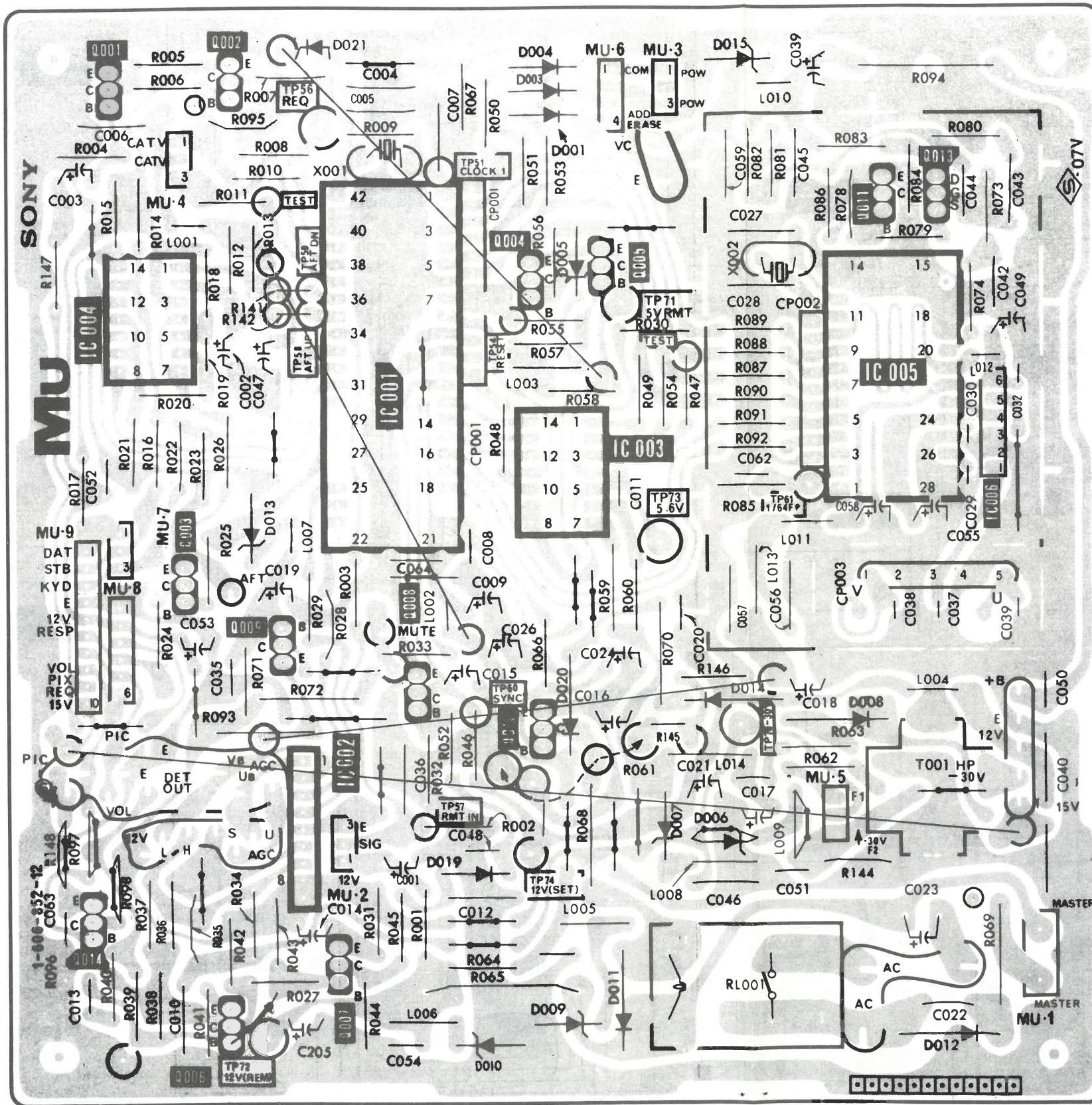
PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

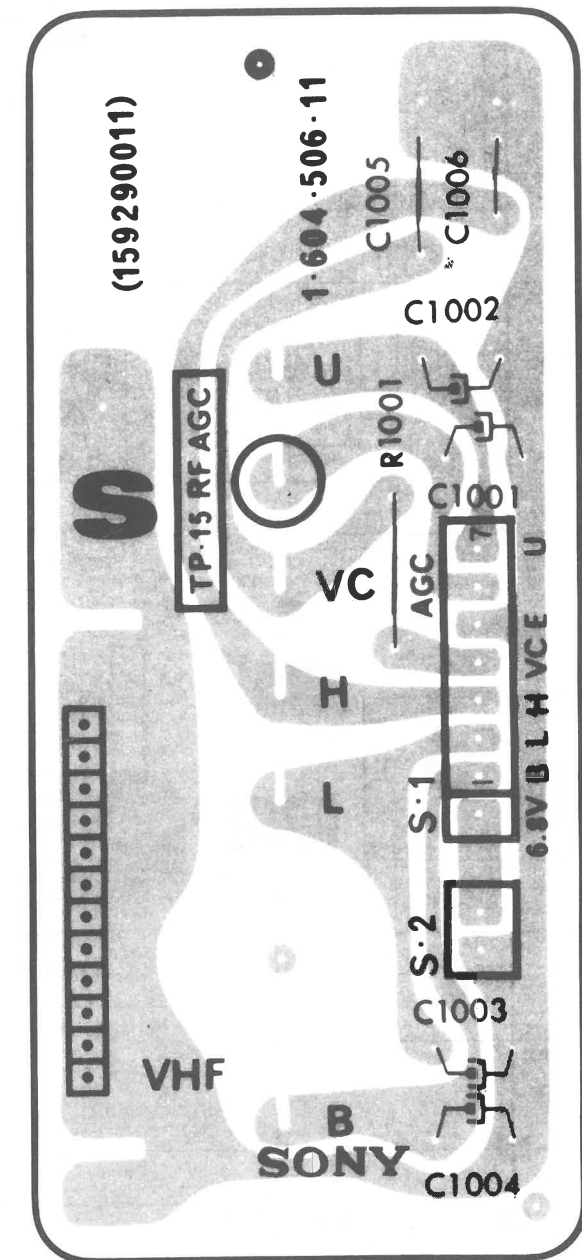
CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA		
			SPRAGUE PART No.		
			Q-LINE	GENERAL LINE	
C022	.0047 125VAC	1-161-748-00			
C201	.0022 50V 10%			10TS-D22	
C202	.018 100V 10%			192P1839R8	
C205	39 NPO 50V 5%			10TCC-Q39	
C207	.01 50V 10%	1-102-129-00			
C208	7pF NPO 50V $\pm .5$	1-102-506-00			
C209	68 NPO 50V 5%			10TCC-Q68	
C210	.0022 50V 10%			10TS-D22	
C211	.018 100V 10%			1PB-S18	
C213	330 50V 10%			10TS-T33	
C215	.0022 50V 10%			10TS-D22	
C220	.0022 50V 10%			10TS-D22	
C224	.01 50V		QCP-5194-01	TG-S10	
C251	330 50V 5%	1-102-820-00			
C252	220 500V 10%			10TCC-T22	
C258	.0022 100V 10%		QCP-6120-01	6PS-D22	
C303	150 50V 10%			10TCC-T15	
C307	.0047 50V 10%	1-161-383-00			
C309	30 50V 5%	1-102-962-00			
C310	.0022 50V 10%			10TS-D22	
C313	.0033 100V 10%			1FT-D33	
C317	.001 50V 10%			10TS-D10	
C322	.01 50V		QCP-5194-01	TG-S10	
C324	.0022 50V 10%			10TS-D22	
C326	8pF NPO 50V $\pm .5$	1-102-865-00			
C327	120 50V 5%			10TCC-T12	
C328	330 50V 10%			10TS-T33	
C329	47 50V 5%			10TCC-Q47	
C330	.01 50V 10%	1-102-129-00			
C332	68 50V 5%			10TCC-Q68	
C333	68 50V 5%			10TCC-Q68	
C334	68 50V 5%			10TCC-Q68	
C502	.0047 100V 10%		QCP-6132-01	1FT-D47	
C503	.0033 50V 5%			MWC-332	
C504	.0022 50V 5%			MWC-222	
C506	.01 50V 5%	1-108-579-00			
C507	.022 50V 5%	1-108-587-00			
C510	.047 100V 10%		QCP-6211-01	1FT-S47	
C512	.0022 100V 10%		QCP-6120-01	6PS-D22	
C513	100 500V 5%			10TCC-T10	
C514	.01 100V 10%		QCP-6160-01	1FT-S10	
C516	.033 100V 10%		QCP-6193-01	1FT-S33	
C517	.001 200V 10%		QCP-6106-01	6PS-D10	
C518	.01 100V 10%		QCP-6160-01	1FT-S10	
C519	.033 100V 10%		QCP-6193-01	1FT-S33	
C521	330 50V 5%			10TS-T33	
C522	330 500V 10%			10TS-T33	
C524A	.0036 1200V 3%	1-130-717-00			
C524B	.0036 1200V 3%	1-130-717-00			
C529	.33 200V 5%	1-130-684-00			
C530	820 500V 10%			10TS-T82	
C538	820 500V 10%			10TS-T82	
C543	330 500V 10%			10TS-T33	
C545	820 500V 10%			10TS-T82	
C546	.0056 200V 10%			6PS-D56	
C549	.1 200V 10%			2PB-P10	
C554	330 500V 10%			10TS-T33	
C601	.22 125VAC	1-108-745-00			
C605	330 500V 10%			10TS-T33	
C608	.0047 125VAC	1-161-748-00			
C701	680 2KV			30GAT68	
C703	.0047 1600V	1-102-223-00			
C705	330 50V 10%			10TS-T33	
C706	330 50V 10%			10TS-T33	
C707	330 50V 10%			10TS-T33	



Courtesy of the Manufacturer

— S Board —



SONY CHASSIS
SCC-406E-A/F-A

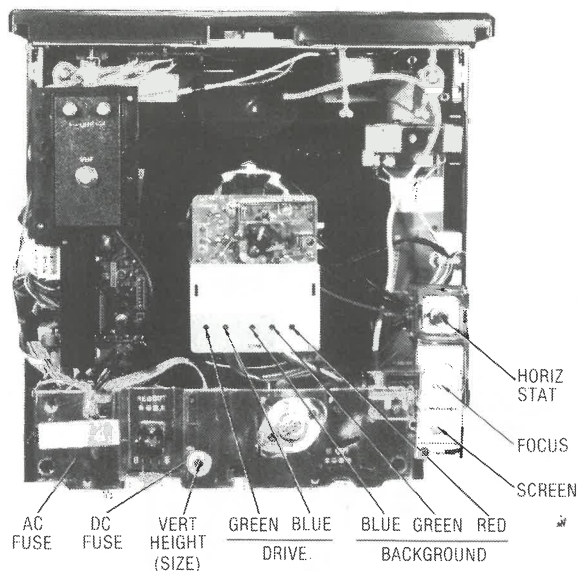
FOLDER 2

MU BOARD

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S BOARD

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CABINET-REAR VIEW

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

Remove five screws (three on back, one in each handle slot) holding cabinet back and sides and remove cabinet back and sides. Cabinet top may be removed at this time. Disconnect HV anode, CRT socket, deflection yoke connectors, degaussing coil connector, speaker connector and ground leads. Disconnect connectors from MU assembly, remove two screws holding assembly to degaussing shield, lift assembly out of slots in shield and remove assembly. Release latches holding main board to bottom frame and slide main board out of frame.

CABINET TOP REMOVAL

Follow "Chassis Removal" and lay set facedown on a soft protective surface. Remove four screws holding cabinet top to front panel and remove top. Loosen two screws holding power switch, channel selectors and readout and remove receiver to cabinet front and remove assembly from cabinet.

CRT REMOVAL

Follow "Chassis and Cabinet Top Removal" procedures, loosen and remove four screws holding CRT and degaussing shield to cabinet front. Lift shield out of cabinet and lift CRT out of cabinet. Do not lift CRT by the neck.

SERVICING IN THE FIELD

CRT IMPLOSION PROTECTION AND CLEANING

Implosion protection is an integral part of the picture tube, cleaning accomplished without CRT removal.

FUSE DEVICES

A 1.25-amp fuse is used for low-voltage power-supply protection. (See photo, Cabinet - Rear View.)

A 5-amp fuse is used for AC line protection. (See photo, Cabinet - Rear View.)

CHANNEL READOUT ACCESSIBILITY

Tuning assembly must be removed. See Disassembly Instructions.

VHF/UHF TUNER

Two buttons are provided for channel scanning up or down, with ten buttons provided (on remote transmitter) for channel selection and channel pretuning. See channel pretuning procedure. Fine tuning is automatic.

HORIZONTAL OSCILLATOR

Adjustment of the horizontal hold is accomplished by the proper setting of the horiz freq control. (See Placement Chart.)

FOCUS

The focus may be varied by a focus control. (See photo, Cabinet - Rear View.)

AGC

The AGC may be varied by UHF AGC and VHF AGC controls. (See Placement Chart.)

CENTERING

Horizontal centering is accomplished by proper placement of the horizontal centering jumper. (See Placement Chart.)

Vertical centering is accomplished by proper placement of the vertical centering jumper. (See Placement Chart.)